

SHARP SERVICE MANUAL

S55J4DV-NC200

VCR/DVD COMBINATION



DV-NC200S(S)

DV-NC200(RU)

MODELS DV-NC200S(B)



The region number for this VCR/DVD is 2.

[DV-NC200S(S)/
DV-NC200S(B)]



The region number for this VCR/DVD is 5.

[DV-NC200(RU)]

In the interests of user-safety (Required by safety regulations in some countries) the set should be restored to its original condition and only parts identical to those specified be used.

CONTENTS

MAIN SECTION

1. SPECIFICATIONS	1-1-1
2. LASER BEAM SAFETY PRECAUTIONS	1-2-1
3. IMPORTANT SAFEGUARDS AND PRECAUTIONS	1-3-1
4. STANDARD NOTES FOR SERVICING	1-4-1
5. PREPARATION FOR SERVICING	1-5-1
6. OPERATING CONTROLS AND FUNCTIONS	1-6-1
7. CABINET DISASSEMBLY INSTRUCTIONS	1-7-1
8. HOW TO INITIALIZE THE DVD PLAYER & VCR	1-8-1
9. ELECTRICAL ADJUSTMENT INSTRUCTIONS	1-9-1
10. FIRMWARE RENEWAL MODE (FIRMWARE VERSION UP)	1-10-1
11. TROUBLESHOOTING	1-11-1
12. FUNCTION INDICATOR SYMBOLS	1-12-1
13. BLOCK DIAGRAMS	1-13-1
14. SCHEMATIC DIAGRAMS/ CBA'S AND TEST POINTS	1-14-1
15. WAVEFORMS	1-15-1
16. WIRING DIAGRAM	1-16-1
17. IC PIN FUNCTION DESCRIPTIONS	1-17-1
18. LEAD IDENTIFICATIONS	1-18-1
19. EXPLODED VIEWS	1-19-1
20. MECHANICAL PARTS LIST	1-20-1
21. ELECTRICAL PARTS LIST	1-21-1

DECK MECHANISM SECTION

1. STANDARD MAINTENANCE	2-1-1
2. SERVICE FIXTURE AND TOOLS	2-2-1
3. MECHANICAL ALIGNMENT PROCEDURES	2-3-1
4. DISASSEMBLY / ASSEMBLY PROCEDURES OF DECK MECHANISM	2-4-1
5. ALIGNMENT PROCEDURES OF MECHANISM	2-5-1
6. DECK EXPLODED VIEWS	2-6-1
7. DECK PARTS LIST	2-7-1

SHARP CORPORATION

This document has been published to be used for after sales service only.
The contents are subject to change without notice.

MAIN SECTION

VCR/DVD COMBINATION

DV-NC200S(S)/DV-NC200(RU)/DV-NC200S(B)

TABLE OF CONTENTS

1. SPECIFICATIONS	1-1-1
2. LASER BEAM SAFETY PRECAUTIONS	1-2-1
3. IMPORTANT SAFEGUARDS AND PRECAUTIONS	1-3-1
4. STANDARD NOTES FOR SERVICING	1-4-1
5. PREPARATION FOR SERVICING	1-5-1
6. OPERATING CONTROLS AND FUNCTIONS	1-6-1
7. CABINET DISASSEMBLY INSTRUCTIONS	1-7-1
8. HOW TO INITIALIZE THE DVD PLAYER & VCR	1-8-1
9. ELECTRICAL ADJUSTMENT INSTRUCTIONS	1-9-1
10. FIRMWARE RENEWAL MODE (FIRMWARE VERSION UP)	1-10-1
11. TROUBLESHOOTING	1-11-1
12. FUNCTION INDICATOR SYMBOLS	1-12-1
13. BLOCK DIAGRAMS	1-13-1
14. SCHEMATIC DIAGRAMS/ CBA'S AND TEST POINTS	1-14-1
15. WAVEFORMS	1-15-1
16. WIRING DIAGRAM	1-16-1
17. IC PIN FUNCTION DESCRIPTIONS	1-17-1
18. LEAD IDENTIFICATIONS	1-18-1
19. EXPLODED VIEWS	1-19-1
20. MECHANICAL PARTS LIST	1-20-1
21. ELECTRICAL PARTS LIST	1-21-1

SPECIFICATIONS

< VCR Section >

TAPE SPEED: SP

Description	Unit	Minimum	Nominal	Maximum	Remark
1. Video					
1-1. Video Output (PB)	Vp-p	0.8	1	1.2	9HSFL6A
1-2. Video Output (R/P)	Vp-p	0.8	1	1.2	
1-3. Video S/N Y (R/P)	dB	40	43		W/O Burst
1-4. Video Color S/N AM (R/P)	dB	35	41		
1-5. Video Color S/N PM (R/P)	dB	33	38		
1-6. Resolution (PB)	Line	210	230		9HSFL6M
2. Servo					
2-1. Jitter Low	μsec		0.07	0.12	
2-2. Wow & Flutter	%		0.3	0.6	
3. Normal Audio					
3-1. Output (PB)	dBV	-9	-4	-2	9HSFL6A
3-2. Output (R/P)	dBV	-9	-4	-1	
3-3. S/N (R/P)	dB	36	40		
3-4. Distortion (R/P)	%		1.5	4	
3-5. Freq. resp (R/P) at 200Hz (PB)	dB	-6	-3	5	9HSFL6K
(-20dB ref. 1kHz) at 8kHz (PB)	dB	-6	-3	5	
4. Tuner					
4-1. Video output	Vp-p	0.8	1	1.2	
4-2. Video S/N	dB	40	45		
4-3. Audio output	dB	-10	-6	-2	
4-4. Audio S/N	dB	40	50		
5. Hi-Fi Audio					
5-1. Output (PB)	dBV	-12	-9	-6	9HSFL6HA
5-2. Dynamic Range	dB	70	80		
5-3. Freq. resp (6dB B.W)	Hz		20 ~ 20K		

Notes:

1. Nominal specs represent the design specs. All units should be able to approximate these – some will exceed and some may drop slightly below these specs. Limit specs represent the absolute worst condition that still might be considered acceptable; In no case should a unit fail to meet limit specs.
2. For test tapes, refer to "SERVICE FIXTURE AND TOOLS" section.

< DVD Section >

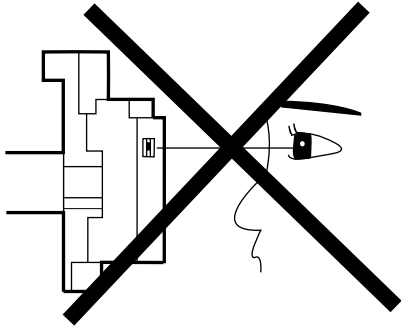
ITEM	CONDITIONS	UNIT	NOMINAL	LIMIT
1 Video Output	75 Ω load	Vpp	1.0	± 0.1
2 Coaxial Digital Out		mVpp	500	
3 Audio (PCM)				
3-1. Output Level	1 kHz, 0 dB, 47k Ω load	Vrm	2.0	
3-2. S/N	47k Ω load	dB	90	
3-3. Freq. Response				
DVD	fs = 48 kHz \pm 0.5 dB, 47k Ω load	Hz	20 ~ 20 kHz	
CD	fs = 44.1 kHz \pm 0.5 dB, 47k Ω load	Hz	20 ~ 20 kHz	
3-4. THD +N				
DVD	1k Hz, 0 dB, 47k Ω load	%	0.03	
CD	1k Hz, 0 dB, 47k Ω load	%	0.03	

NOTES:

1. All Items are measured without pre-emphasis unless otherwise specified.
2. Power supply : AC220 V - 240 V ~ 50Hz
3. Room ambient : 5 °C ~ 40 °C
4. Power consumption: 25 W (Standby: 5.5 W)
5. Weight: 6.84 lbs (3.2kg)
6. Dimension: 435 mm X 94 mm X 233 mm

LASER BEAM SAFETY PRECAUTIONS

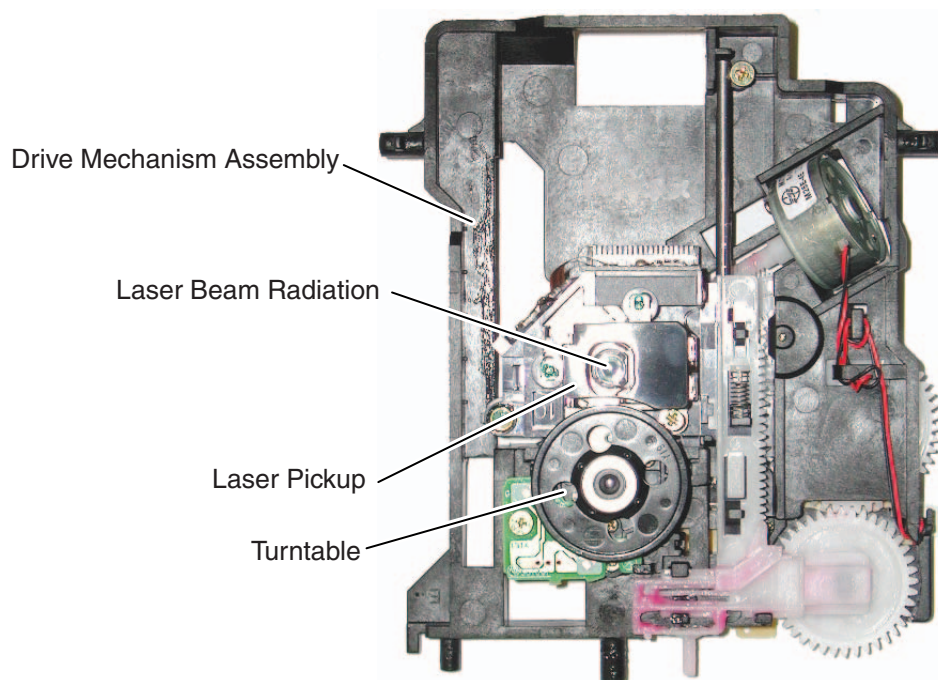
This DVD player uses a pickup that emits a laser beam.



Do not look directly at the laser beam coming from the pickup or allow it to strike against your skin.

The laser beam is emitted from the location shown in the figure. When checking the laser diode, be sure to keep your eyes at least 30cm away from the pickup lens when the diode is turned on. Do not look directly at the laser beam.

Caution: Use of controls and adjustments, or doing procedures other than those specified herein, may result in hazardous radiation exposure.



CAUTION - CLASS 1M LASER RADIATION WHEN OPEN. DO NOT VIEW DIRECTLY WITH OPTICAL INSTRUMENTS

Location: Top of DVD mechanism

IMPORTANT SAFEGUARDS AND PRECAUTIONS

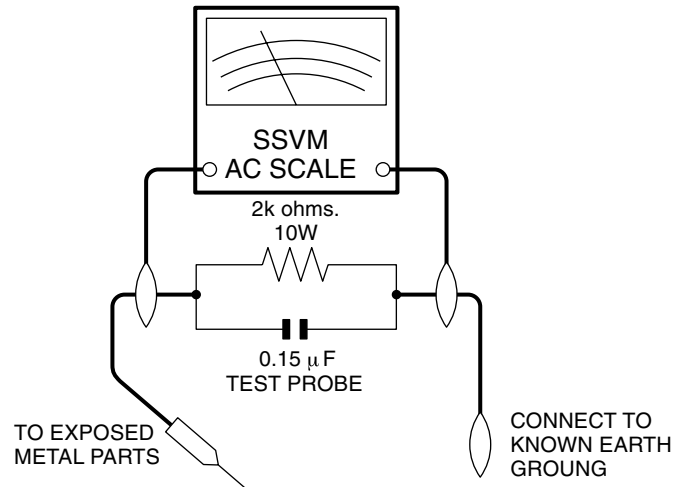
1. IMPORTANT SERVICE NOTES

BEFORE RETURNING THE DVD VIDEO PLAYER

Before returning the DVD video player to the user, perform the following safety checks.

1. Inspect all lead dress to make certain that leads are not pinched or that hardware is not lodged between the chassis and other metal parts in the DVD video player.
2. Inspect all protective devices such as non-metallic control knobs, insulation materials, cabinet backs, adjustment and compartment covers or shields, isolation resistor/capacitor networks, mechanical insulators etc.
3. To be sure that no shock hazard exists, check for current in the following manner.
 - Plug the AC line cord directly into a 230 volt AC outlet (Do not use an isolation transformer for this test).
 - Using two clip leads, connect a 1.5k ohm, 10 watt resistor paralleled by a 0.15 μ F capacitor in series with all exposed metal cabinet parts and a known earth ground, such as a water pipe or conduit.
 - Use an DVM or VOM with 1000 ohm per volt, or higher, sensitivity or measure the AC voltage drop across the resistor (See Diagram).
 - Move the resistor connection to earth exposed metal part having a return path to the chassis (metal cabinet, screw heads, knobs and control shafts, etc.) and measure the AC voltage drop across the resistor.

Reverse the AC plug on the set and repeat AC voltage measurements for each exposed part. Any reading of 1.4V rms (this corresponds to 0.7mA rms AC.) or more is excessive and indicates a potential shock hazard which must be corrected before returning the DVD video player to the owner.



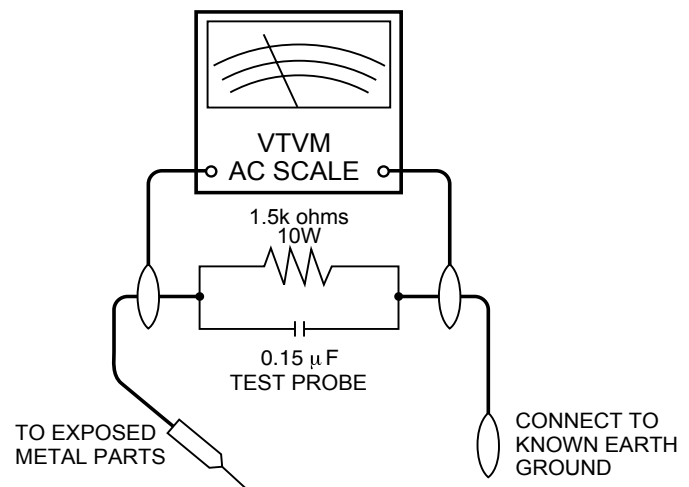
1. NOTES DE SERVICE IMPORTANTES

AVANT DE RENDRE LE REPRODUCTEUR DE VÉIDEO DVD

Avant de rendre le reproducteur de vidéo DVD à l'utilisateur, effectuer les vérifications de sécurité suivantes.

1. Vérifier toutes les gaines de fil pour être sûr que les fils ne sont pas pincés ou que le matériel n'est pas coincé entre le châssis et les autres pièces métalliques dans le reproducteur de vidéo DVD.
2. Vérifier tous les dispositifs de protection tels que les boutons de commande non métalliques, les matériaux d'isolement, le dos du coffret, les couvercles de compartiment et ajustement ou les boucliers, les réseaux de résistance / condensateur d'isolement, les isolateurs mécaniques, etc.
3. Pour être sûr qu'il n'y a aucun risque de choc électrique, vérifier le courant de fuite de la manière suivante.
 - Brancher le cordon d'alimentation secteur directement dans une prise de courant de 230 volts. (Ne pas utiliser de transformateur d'isolement pour cet essai).
 - Utiliser deux fils à pinces et connecter une résistance de 10 watts 1,5 kohm en parallèle avec un condensateur de 0,15 μ F en série avec des pièces du coffret métallique exposées et une masse de terre connue telle qu'un tuyau ou un conduit d'eau.
 - Utiliser un DVM ou VOM avec une sensibilité de 1000 ohms par volt ou plus ou mesurer la chute de tension CA entre la résistance (voir diagramme).
 - Déposer la connexion de la résistance à toutes les

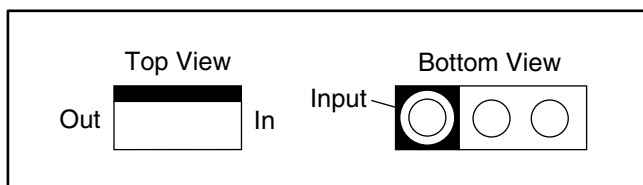
pièces métalliques exposées ayant un parcours de retour au châssis (coffret métallique, têtes de vis, boutons et arbres de commande, etc.) et mesurer la chute de tension CA entre la résistance. Inverser la fiche CA (une fiche intermédiaire non polarisée doit être utilisée à seule fin de faire ces vérifications.) sur l'appareil et répéter les mesures de tension CA pour chaque pièce métallique exposée. Toute lecture de 1,4 V rms (ceci correspond à 0,7 mA rms CA) ou plus est excessive et signale un danger de choc qui doit être corrigé avant de rendre le reproducteur de vidéo DVD à son utilisateur.



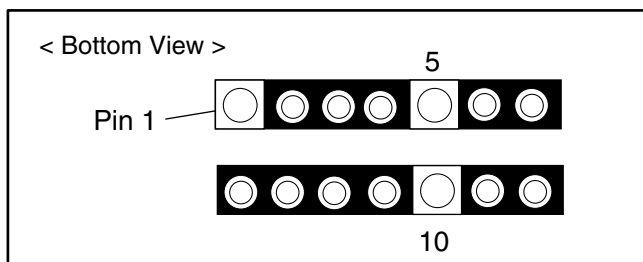
STANDARD NOTES FOR SERVICING

Circuit Board Indications

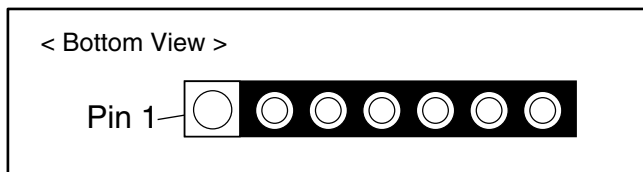
- a. The output pin of the 3 pin Regulator ICs is indicated as shown.



- b. For other ICs, pin 1 and every fifth pin are indicated as shown.

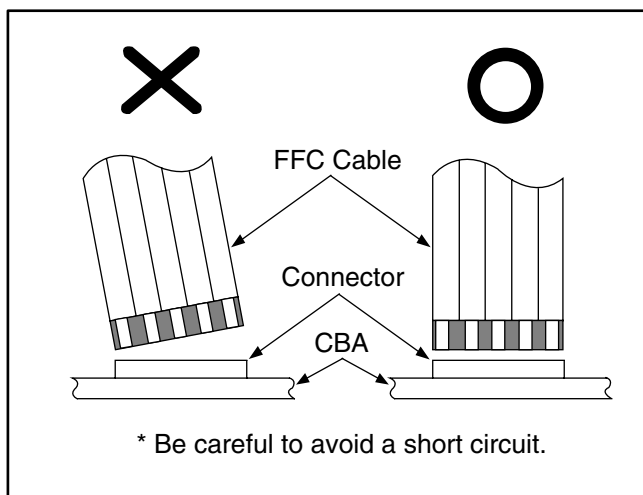


- c. The 1st pin of every male connector is indicated as shown.



Instructions for Connectors

- When you connect or disconnect the FFC (Flexible Foil Connector) cable, be sure to first disconnect the AC cord.
- FFC (Flexible Foil Connector) cable should be inserted parallel into the connector, not at an angle.



Using lead-free wire solder

When fixing the PWB soldered with the lead-free solder, apply lead-free wire solder. Repairing with conventional lead wire solder may cause damage or accident due to cracks.

As the melting point of lead-free solder (Sn-Ag-Cu) is higher than the lead wire solder by 40°C, we recommend you to use a dedicated soldering bit, if you are not familiar with how to obtain lead-free wire solder or soldering bit, contact our service station or service branch in your area.

Soldering

As the melting point of lead-free solder (Sn-Ag-Cu) is about 220°C which is higher than the conventional lead solder by 40°C, and as it has poor solder wettability, you may be apt to keep the soldering bit in contact with the PWB for extended period of time. However, Since the land may be peeled off or the maximum heat-resistance temperature of parts may be exceeded, remove the bit from the PWB as soon as you confirm the steady soldering condition.

Lead-free solder contains more tin, and the end of the soldering bit may be easily corroded. Make sure to turn on and off the power of the bit as required.

If a different type of solder stays on the tip of the soldering bit, it is alloyed with lead-free solder. Clean the bit after every use of it.

When the tip of the soldering bit is blackened during use, file it with steel wool or fine sandpaper.

Be careful when replacing parts with polarity indication on the PWB silk.

Lead-free wire solder for servicing

Part No.	★	Description	Code
ZHNDAi123250E	J	φ0.3mm 250g(1roll)	BL
ZHNDAi126500E	J	φ0.6mm 500g(1roll)	BK
ZHNDAi12801KE	J	φ1.0mm 1kg(1roll)	BM

How to Remove / Install Flat Pack-IC

1. Removal

With Hot-Air Flat Pack-IC Desoldering Machine:

- (1) Prepare the hot-air flat pack-IC desoldering machine, then apply hot air to the Flat Pack-IC (about 5 to 6 seconds). (Fig. S-1-1)

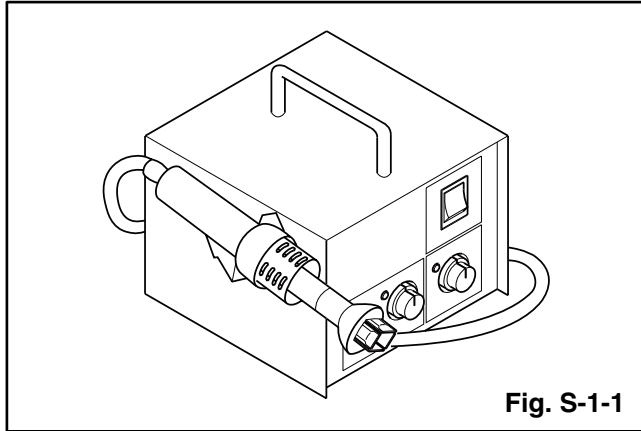


Fig. S-1-1

- (2) Remove the flat pack-IC with tweezers while applying the hot air.
- (3) Bottom of the flat pack-IC is fixed with glue to the CBA; when removing entire flat pack-IC, first apply soldering iron to center of the flat pack-IC and heat up. Then remove (glue will be melted). (Fig. S-1-6)
- (4) Release the flat pack-IC from the CBA using tweezers. (Fig. S-1-6)

Caution:

1. Do not supply hot air to the chip parts around the flat pack-IC for over 6 seconds because damage to the chip parts may occur. Put masking tape around the flat pack-IC to protect other parts from damage. (Fig. S-1-2)
2. The flat pack-IC on the CBA is affixed with glue, so be careful not to break or damage the foil of each pin or the solder lands under the IC when removing it.

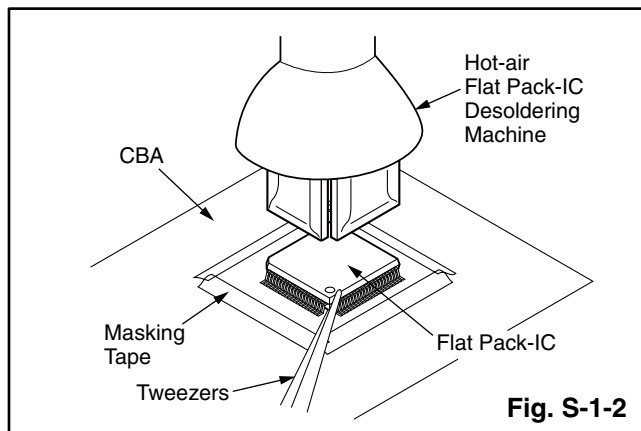


Fig. S-1-2

With Soldering Iron:

- (1) Using desoldering braid, remove the solder from all pins of the flat pack-IC. When you use solder flux which is applied to all pins of the flat pack-IC, you can remove it easily. (Fig. S-1-3)

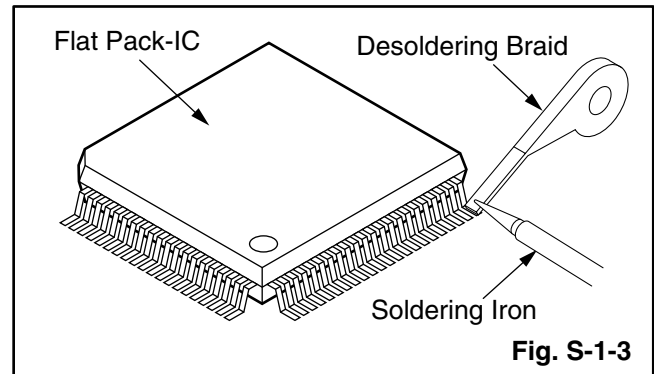


Fig. S-1-3

- (2) Lift each lead of the flat pack-IC upward one by one, using a sharp pin or wire to which solder will not adhere (iron wire). When heating the pins, use a fine tip soldering iron or a hot air desoldering machine. (Fig. S-1-4)

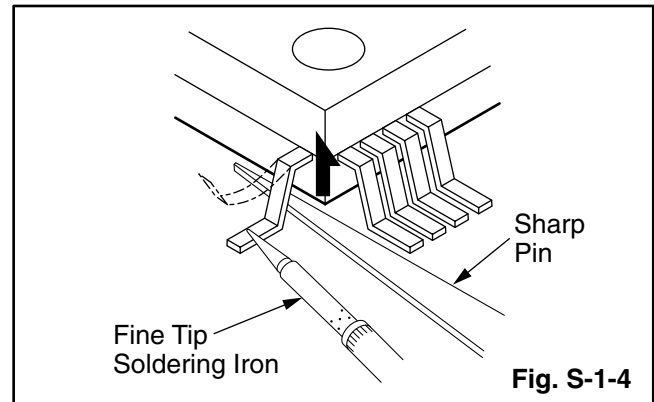


Fig. S-1-4

- (3) Bottom of the flat pack-IC is fixed with glue to the CBA; when removing entire flat pack-IC, first apply soldering iron to center of the flat pack-IC and heat up. Then remove (glue will be melted). (Fig. S-1-6)
- (4) Release the flat pack-IC from the CBA using tweezers. (Fig. S-1-6)

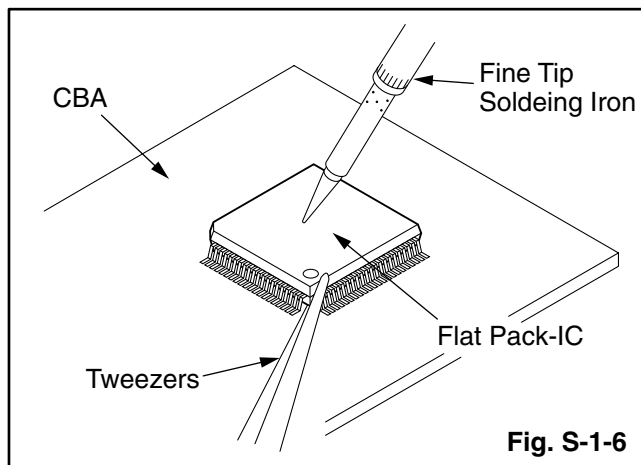
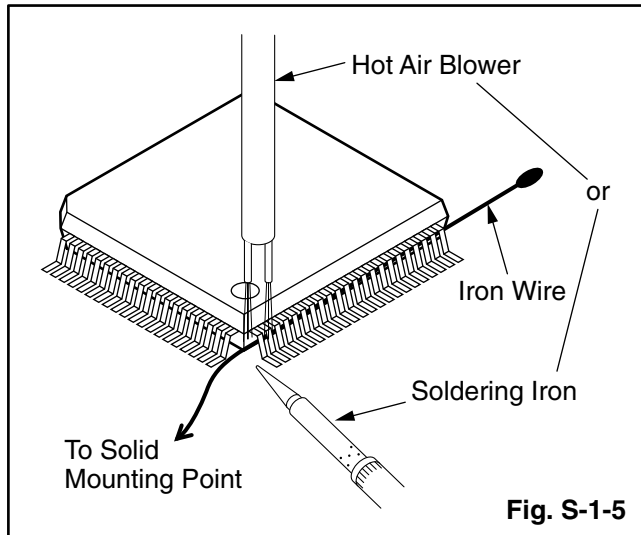
With Iron Wire:

- (1) Using desoldering braid, remove the solder from all pins of the flat pack-IC. When you use solder flux which is applied to all pins of the flat pack-IC, you can remove it easily. (Fig. S-1-3)
- (2) Affix the wire to a workbench or solid mounting point, as shown in Fig. S-1-5.
- (3) While heating the pins using a fine tip soldering iron or hot air blower, pull up the wire as the solder melts so as to lift the IC leads from the CBA contact pads as shown in Fig. S-1-5.

- (4) Bottom of the flat pack-IC is fixed with glue to the CBA; when removing entire flat pack-IC, first apply soldering iron to center of the flat pack-IC and heat up. Then remove (glue will be melted). (Fig. S-1-6)
- (5) Release the flat pack-IC from the CBA using tweezers. (Fig. S-1-6)

Note:

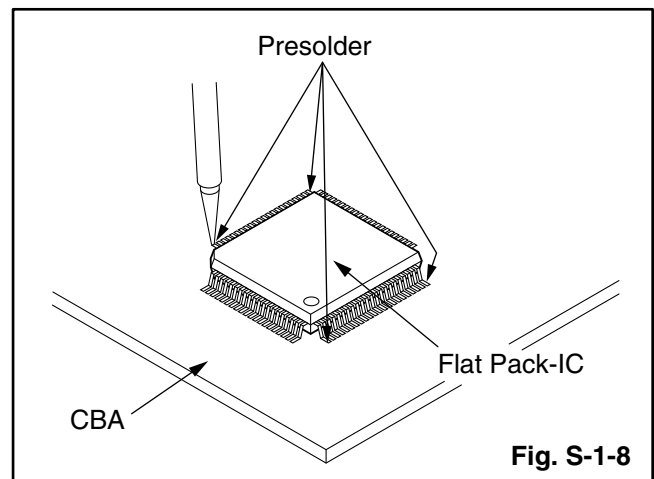
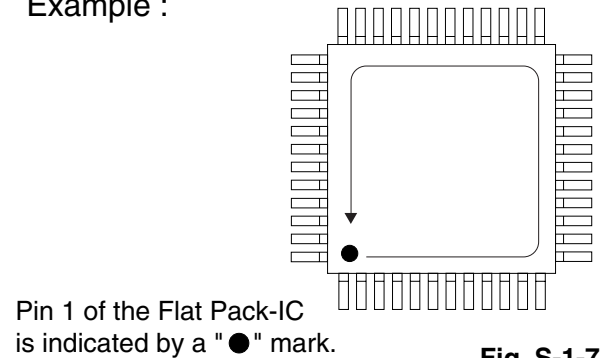
When using a soldering iron, care must be taken to ensure that the flat pack-IC is not being held by glue. When the flat pack-IC is removed from the CBA, handle it gently because it may be damaged if force is applied.



2. Installation

- (1) Using desoldering braid, remove the solder from the foil of each pin of the flat pack-IC on the CBA so you can install a replacement flat pack-IC more easily.
- (2) The "●" mark on the flat pack-IC indicates pin 1. (See Fig. S-1-7.) Be sure this mark matches the 1 on the PCB when positioning for installation. Then presolder the four corners of the flat pack-IC. (See Fig. S-1-8.)
- (3) Solder all pins of the flat pack-IC. Be sure that none of the pins have solder bridges.

Example :



Instructions for Handling Semi-conductors

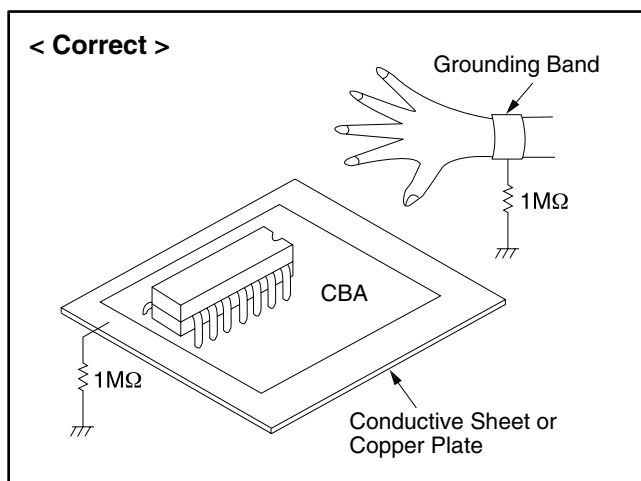
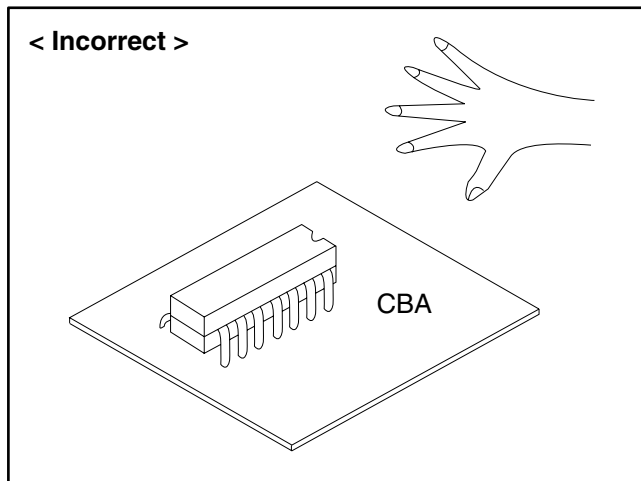
Electrostatic breakdown of the semi-conductors may occur due to a potential difference caused by electrostatic charge during unpacking or repair work.

1. Ground for Human Body

Be sure to wear a grounding band ($1M\Omega$) that is properly grounded to remove any static electricity that may be charged on the body.

2. Ground for Workbench

Be sure to place a conductive sheet or copper plate with proper grounding ($1M\Omega$) on the workbench or other surface, where the semi-conductors are to be placed. Because the static electricity charge on clothing will not escape through the body grounding band, be careful to avoid contacting semi-conductors with your clothing.



PREPARATION FOR SERVICING

How to Enter the Service Mode

About Optical Sensors

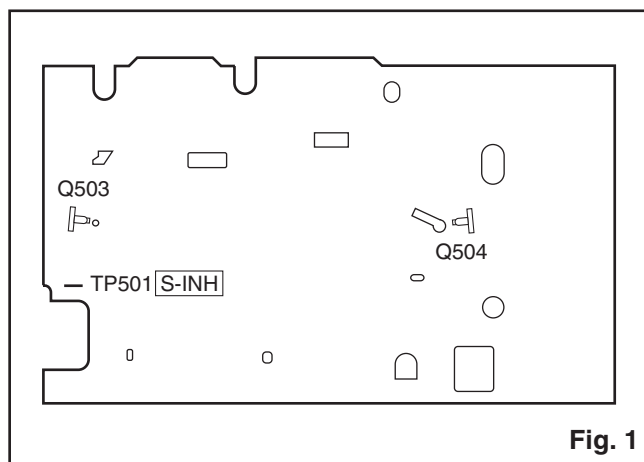
Caution:

An optical sensor system is used for the Tape Start and End Sensors on this equipment. Carefully read and follow the instructions below. Otherwise the unit may operate erratically.

What to do for preparation

Insert a tape into the Deck Mechanism Assembly and press the PLAY button. The tape will be loaded into the Deck Mechanism Assembly. Make sure the power is on, connect TP501 (S-INH) to GND. This will stop the function of Tape Start Sensor, Tape End Sensor and Reel Sensors. (If these TPs are connected before plugging in the unit, the function of the sensors will stay valid.) See Fig. 1.

Note: Because the Tape End Sensors are inactive, do not run a tape all the way to the start or the end of the tape to avoid tape damage.

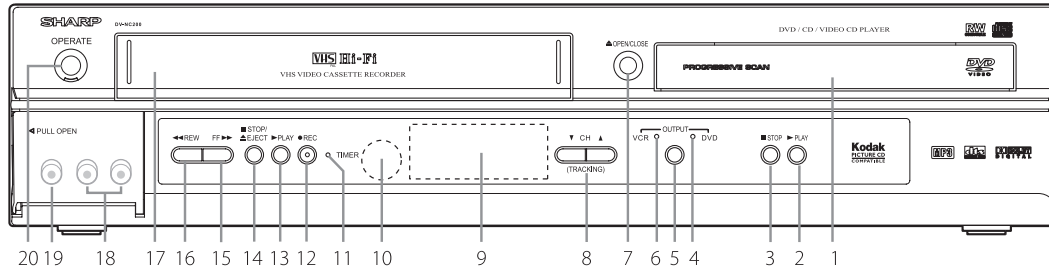


OPERATING CONTROLS AND FUNCTIONS

[DV-NC200S(S)]

FUNCTIONAL OVERVIEW

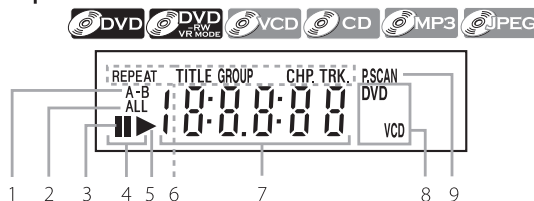
Front Panel



1. **Disc Tray**
2. **PLAY (DVD)**
To begin disc playback.
3. **STOP (DVD)**
To stop playback.
4. **DVD OUTPUT Indicator**
The indicator is on when this VCR/DVD is in the DVD mode. Make sure that this indicator is on before using the DVD player.
5. **OUTPUT**
To select the DVD mode or VCR mode.
6. **VCR OUTPUT Indicator**
The indicator is on when this VCR/DVD is in the VCR mode. Make sure that this indicator is on before VCR operation.
7. **OPEN/CLOSE (DVD)**
To open or close the disc tray.
8. **CHANNEL**
To change TV channels.
To adjust the tracking manually during VCR playback.
9. **Display**
10. **Remote Sensor**
11. **TIMER Indicator**
The indicator is on when the VCR/DVD is in standby mode for a Timer Recording or during a One Touch Recording.
12. **REC (VCR)**
Press once to start recording or repeatedly to start One Touch Recording. The indicator is on during recording.
13. **PLAY (VCR)**
To begin tape playback.
14. **STOP/EJECT (VCR)**
To stop playback. To eject the tape in the stop mode.
15. **FF (VCR)**
To fast forward the tape.
16. **REW (VCR)**
To rewind the tape.
17. **Cassette Compartment**
18. **AUDIO IN Jacks (AV3 / VCR only)**
Connect Audio cable coming from the audio out jacks of a camcorder, another VCR, or an audio source here.
19. **VIDEO IN Jack (AV3 / VCR only)**
Connect a cable coming from the video out jack of a camcorder, another VCR or an audio-visual source (laser disc player, video disc player, etc.) here.
20. **OPERATE**
To turn the VCR/DVD ON or OFF.
The indicator is on when this VCR/DVD is turned on.

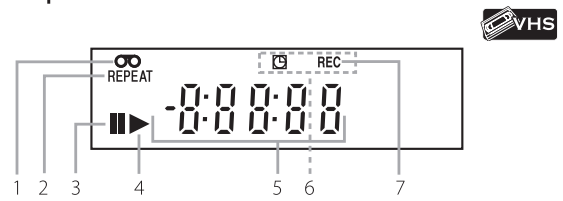
Display

DVD Output Mode



1. Lights up when the A-B repeat function is on.
2. Lights up when the ALL repeat function is on.
3. Lights up when the inserted disc comes to a pause.
4. Lights up when playing back in slow mode (DVD or Video CD).
5. Lights up when the inserted disc is being played back.
6. Lights up when the repeat function is on.
7. Displays how long the current title or track has been played back. When a chapter or track is switched, the number of a new title, chapter or track is displayed.
8. Displays a type of the disc which is inserted on the tray.
 - DVD : DVD
 - CD : Audio CD, MP3, JPEG, Kodak Picture CD
 - VCD : Video CD
9. Lights up when the progressive scan system is activated.

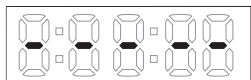
VCR Output Mode



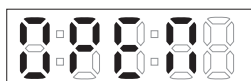
1. *Lights up when a tape is in the VCR/DVD.
2. Lights up during playback when the repeat function is on.
3. Lights up when the playback is in still or slow mode.
4. Lights up when the inserted cassette is being played back.
5. Works as a tape counter (hour, minute, second). Also displays a channel number, tape speed, remaining time for OTR or current time.
6. *Lights up when the Timer Recording or an OTR recording has been set.
7. *Lights up during a recording. Flashes when a recording is paused.

* , and mark will disappear when you set VCR/DVD in DVD mode. However, the function indicated by each mark is still working.

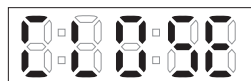
Display During Operation



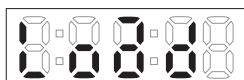
No disc inserted / cannot read disc.



Appears when the disc tray is opening.



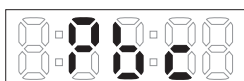
Appears when the disc tray is closing.



Appears when a disc is loaded on the disc tray.

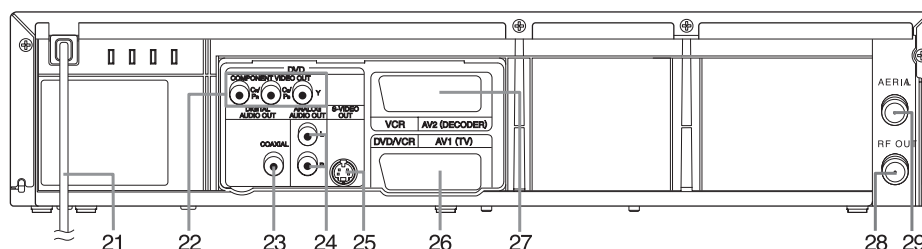


Appears when a disc or tape is being played back.



Appears when the PBC function is activated (Video CD playback only.)

Rear Terminals



21. MAIN (AC power cord)

Connect to a standard AC plug.

22. COMPONENT VIDEO OUT Jacks (DVD only)

Connect optional component Video cable here through the component video in jacks of a TV.

23. COAXIAL DIGITAL AUDIO OUT Jack (DVD only)

Connect to a compatible Dolby Digital receiver. Use to connect to a Dolby Digital decoder, DTS decoder, or MPEG decoder.

24. AUDIO OUT Jacks (ANALOG Left/Right) (DVD only)

Connect to the Audio input jacks of A/V-compatible TV.

25. S-VIDEO OUT Jack (DVD only)

Use the S-Video cable to connect this jack to the S-Video jack on your A/V-compatible TV or wide screen TV for a higher quality picture.

26. EURO AV1 (TV) Terminal

Use the scart cable to connect this terminal to the 21-pin scart terminal on your A/V-compatible TV or wide screen TV for a best quality picture.

27. EURO AV2 (DECODER) Terminal (VCR Only)

Use the scart cable to connect this terminal to the 21-pin scart terminal on your decoder.

28. RF OUT Jack

Use the supplied round coaxial cable to connect this jack to the ANTENNA IN jack on your TV.

29. AERIAL Jack

Connect your antenna, Cable Box, or Direct Broadcast System.

VCR/DVD SWITCHING

Because this product is a combination of a VCR and a DVD player, you must select first which component you wish to operate with **OUTPUT**.

VCR MODE

Press **VCR** on the remote control.

(Verify that the VCR OUTPUT indicator is lit.)

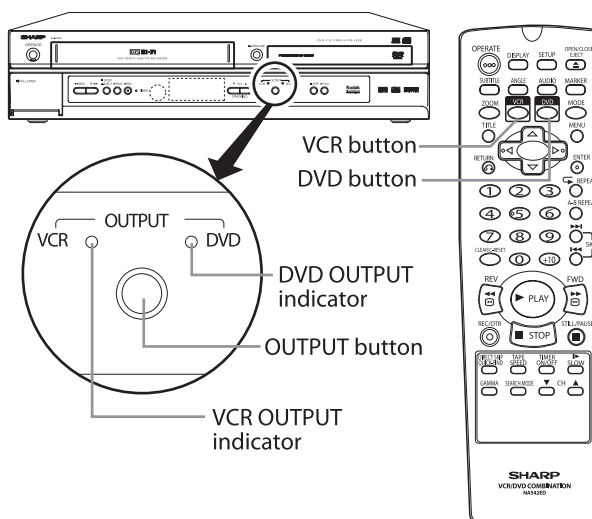
DVD MODE

Press **DVD** on the remote control.

(Verify that the DVD OUTPUT indicator is lit.)

Hint

- Pressing only **OUTPUT** on the front panel DOES NOT switch the mode of the remote control. You MUST select the correct mode on the remote control. In the wrong mode, the VCR/DVD does not respond to your commands correctly. Before starting your desired operation, select the correct mode by following the instruction (press first, or press first) under the subject heading.



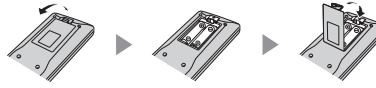
ABOUT THE REMOTE CONTROL

Installing the Batteries for the Remote Control

Install two R-6 batteries (supplied) matching the polarity indicated inside battery compartment of the remote control.

Hint

- Do not mix alkaline and manganese batteries.
- Do not mix old and new batteries.

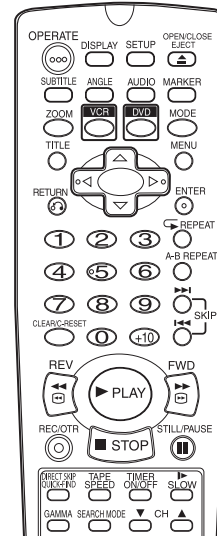
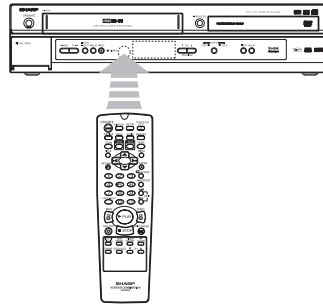


Operable Range

Keep in mind the following when using the remote control:

- Make sure that there is no obstacle between the remote control and the remote sensor on the VCR/DVD.
- The maximum operable range as follows;









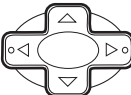



















- Beeline:** approximately 7 m (23 feet)
Either side of centre: approximately 5 m (16 feet) within 30 degrees
Above: approximately 5 m (16 feet) within 15 degrees
Below: approximately 3 m (10 feet) within 30 degrees



Buttons for DVD Only

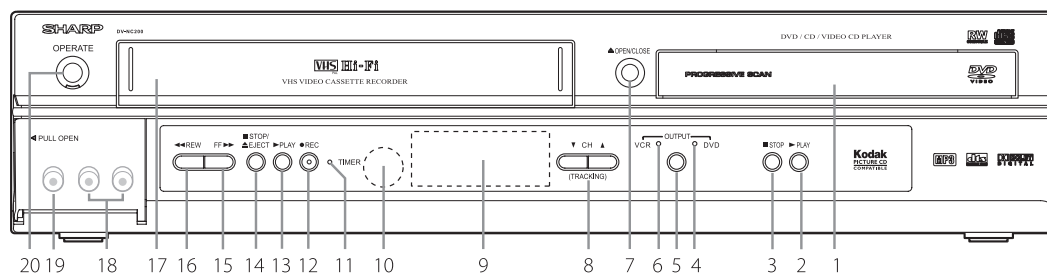
Media type Button (Alphabetical order)	DVD mode	
A-B REPEAT 	<ul style="list-style-type: none"> • Repeats playback of a selected section. 	<ul style="list-style-type: none"> • Repeats playback of a selected section (VCD, CD).
ANGLE 	<ul style="list-style-type: none"> • Press to change the camera angle to see the sequence being played back from a different angle (DVD-Video). 	—
DVD 	<ul style="list-style-type: none"> • Press to select DVD output mode and to use the remote control in DVD mode. 	<ul style="list-style-type: none"> • Press to select DVD output mode and to use the remote control in DVD mode.
ENTER 	<ul style="list-style-type: none"> • Press to accept a setting. 	<ul style="list-style-type: none"> • Press to accept a setting.
GAMMA 	<ul style="list-style-type: none"> • Press to adjust the black parts of the picture brighter. 	<ul style="list-style-type: none"> • Press to adjust the black parts of the picture brighter (VCD).
MARKER 	<ul style="list-style-type: none"> • Press to call back the Marker display. 	<ul style="list-style-type: none"> • Press to call back the Marker display (VCD, CD).
MODE 	<ul style="list-style-type: none"> • Activates Virtual Surround or Rapid Play. 	<ul style="list-style-type: none"> • Activates programmed playback, random playback or folder playback mode (CD, MP3, JPEG). • Activates the 3D sound (VCD, CD).
REPEAT 	<ul style="list-style-type: none"> • Repeats playback of the current disc, title or chapter. 	<ul style="list-style-type: none"> • Repeats playback of the current disc, group or track.
RETURN 	<ul style="list-style-type: none"> • Returns to the previous operation. 	<ul style="list-style-type: none"> • Returns to the previous operation.
SETUP 	<ul style="list-style-type: none"> • Press to enter the setup mode or to change setup items. 	<ul style="list-style-type: none"> • Press to enter the setup mode or to change setup items.
SKIP	<ul style="list-style-type: none"> • Press to skip chapters or titles. 	<ul style="list-style-type: none"> • Press to skip tracks.
SUBTITLE 	<ul style="list-style-type: none"> • Press to select a desired subtitle language. 	—
TITLE 	<ul style="list-style-type: none"> • Displays the title menu. 	<ul style="list-style-type: none"> • Press to return to the first hierarchy in the programme and file list when the file list is the second hierarchy or deeper (MP3, JPEG).
ZOOM 	<ul style="list-style-type: none"> • Enlarges part of a DVD-reproduced image. 	<ul style="list-style-type: none"> • Enlarges part of a reproduced image (VCD, JPEG).

Buttons for Both VCR and DVD

Media type Button (Alphabetical order)	DVD mode		VCR mode
	 	   	
	<ul style="list-style-type: none"> Press to select chapter or title directly. 	<ul style="list-style-type: none"> Press to select track directly. 	<ul style="list-style-type: none"> Press to select channel (except for +10 key).
	<ul style="list-style-type: none"> (up/down/left/right) Press to select an item in the menu and to move the cursor. 	<ul style="list-style-type: none"> (up/down/left/right) Press to select an item in the menu and to move the cursor. 	<ul style="list-style-type: none"> (up/down/left/right) Press to select an item in the menu and to move the cursor.
	<ul style="list-style-type: none"> Press to select a desired audio language or sound mode. 	<ul style="list-style-type: none"> Press to select a desired sound mode (VCD, CD). 	<ul style="list-style-type: none"> Press to select a desired sound mode.
	—	—	<ul style="list-style-type: none"> Press to change TV channels or to adjust the tracking manual.
	<ul style="list-style-type: none"> Press to clear the markers or the incorrect input. 	<ul style="list-style-type: none"> Press to clear the markers or the incorrect input. 	<ul style="list-style-type: none"> Press to reset the counter.
	<ul style="list-style-type: none"> Press to search chapter, title or time. 	<ul style="list-style-type: none"> Press to search track. Press to search time (VCD, CD). 	<ul style="list-style-type: none"> Press to skip to the beginning of the next programme.
	<ul style="list-style-type: none"> Press to display the current playback mode. 	<ul style="list-style-type: none"> Press to display the current playback mode. 	<ul style="list-style-type: none"> Press to display the current time, tape counter and channel number.
	<ul style="list-style-type: none"> Press to begin fast forward playback to a desired point. Press to begin slow forward playback during the pause mode. 	<ul style="list-style-type: none"> Press to begin fast forward playback to a desired point (VCD, CD, MP3). Press to begin slow forward playback during the pause mode (VCD). 	<ul style="list-style-type: none"> Fast forwards playback to a desired point. Press to forward in slow motion faster.
	<ul style="list-style-type: none"> Press to display the DVD menus. 	<ul style="list-style-type: none"> Press to display the MP3 or JPEG file lists. 	<ul style="list-style-type: none"> Press to display the VCR menu.
	<ul style="list-style-type: none"> Press to insert discs into or remove them from the tray. 	<ul style="list-style-type: none"> Press to insert discs into or remove them from the tray. 	<ul style="list-style-type: none"> Press to remove the tape from the VCR.
	<ul style="list-style-type: none"> Press to turn the power on and off. 	<ul style="list-style-type: none"> Press to turn the power on and off. 	<ul style="list-style-type: none"> Press to turn the power on and off.
	<ul style="list-style-type: none"> Press to begin playback. 	<ul style="list-style-type: none"> Press to begin playback. 	<ul style="list-style-type: none"> Press to begin playback.
	—	—	<ul style="list-style-type: none"> Press once to start recording or repeatedly to start One Touch Recording.
	<ul style="list-style-type: none"> Press to begin fast reverse playback to a desired point. Press to begin slow reverse playback during the pause mode. 	<ul style="list-style-type: none"> Press to begin fast reverse playback to a desired point (VCD, CD, MP3). 	<ul style="list-style-type: none"> Fast reverse playback to a desired point. Press to reverse in slow motion slower.
	—	—	<ul style="list-style-type: none"> Press to call up the index or time search menu.
	—	—	<ul style="list-style-type: none"> Press to view the video tape in slow motion.
	<ul style="list-style-type: none"> Press to pause playback or to advance playback one frame at a time. 	<ul style="list-style-type: none"> Press to pause playback. 	<ul style="list-style-type: none"> Press to pause playback or recording or to advance playback one frame at a time.
	<ul style="list-style-type: none"> Press to stop playback. 	<ul style="list-style-type: none"> Press to stop playback. 	<ul style="list-style-type: none"> Press to stop playback or recording.
	—	—	<ul style="list-style-type: none"> Press to select the VCR's recording speed (SP or LP).
	—	—	<ul style="list-style-type: none"> Press to put the VCR into standby mode for a Timer Recording.
	—	—	<ul style="list-style-type: none"> Press to select VCR output mode and to use the remote control in VCR mode.

FUNCTIONAL OVERVIEW

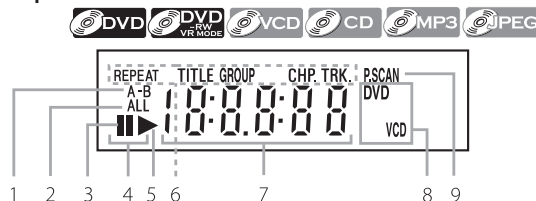
Front Panel



1. **Disc Tray**
2. **PLAY (DVD)**
To begin disc playback.
3. **STOP (DVD)**
To stop playback.
4. **DVD OUTPUT Indicator**
The indicator is on when this VCR/DVD is in the DVD mode. Make sure that this indicator is on before using the DVD player.
5. **OUTPUT**
To select the DVD mode or VCR mode.
6. **VCR OUTPUT Indicator**
The indicator is on when this VCR/DVD is in the VCR mode. Make sure that this indicator is on before VCR operation.
7. **OPEN/CLOSE (DVD)**
To open or close the disc tray.
8. **CHANNEL**
To change TV channels.
To adjust the tracking manually during VCR playback.
9. **Display**
10. **Remote Sensor**
11. **TIMER Indicator**
The indicator is on when the VCR/DVD is in standby mode for a Timer Recording or during a One Touch Recording.
12. **REC (VCR)**
Press once to start recording or repeatedly to start One Touch Recording. The indicator is on during recording.
13. **PLAY (VCR)**
To begin tape playback.
14. **STOP/EJECT (VCR)**
To stop playback. To eject the tape in the stop mode.
15. **FF (VCR)**
To fast forward the tape.
16. **REW (VCR)**
To rewind the tape.
17. **Cassette Compartment**
18. **AUDIO IN Jacks (AV3 / VCR only)**
Connect Audio cable coming from the audio out jacks of a camcorder, another VCR, or an audio source here.
19. **VIDEO IN Jack (AV3 / VCR only)**
Connect a cable coming from the video out jack of a camcorder, another VCR or an audio-visual source (laser disc player, video disc player, etc.) here.
20. **OPERATE**
To turn the VCR/DVD ON or OFF.
The indicator is on when this VCR/DVD is turned on.

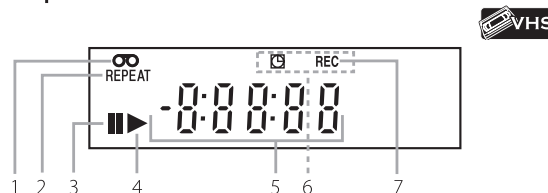
Display

DVD Output Mode



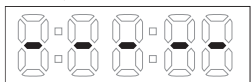
1. Lights up when the A-B repeat function is on.
2. Lights up when the ALL repeat function is on.
3. Lights up when the inserted disc comes to a pause.
4. Lights up when playing back in slow mode (DVD or Video CD).
5. Lights up when the inserted disc is being played back.
6. Lights up when the repeat function is on.
7. Displays how long the current title or track has been played back. When a chapter or track is switched, the number of a new title, chapter or track is displayed.
8. Displays a type of the disc which is inserted on the tray.
 - DVD : DVD
 - CD : Audio CD, MP3, JPEG, Kodak Picture CD
 - VCD : Video CD
9. Lights up when the progressive scan system is activated.

VCR Output Mode

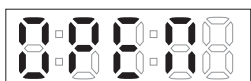


1. *Lights up when a tape is in the VCR/DVD.
 2. Lights up during playback when the repeat function is on.
 3. Lights up when the playback is in still or slow mode.
 4. Lights up when the inserted cassette is being played back.
 5. Works as a tape counter (hour, minute, second). Also displays a channel number, tape speed, remaining time for OTR or current time.
 6. *Lights up when the Timer Recording or an OTR recording has been set.
 7. *Lights up during a recording. Flashes when a recording is paused.
- * **REPEAT**, **REC** and **REC** mark will disappear when you set VCR/DVD in DVD mode. However, the function indicated by each mark is still working.

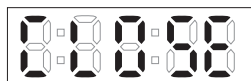
Display During Operation



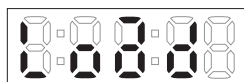
No disc inserted / cannot read disc.



Appears when the disc tray is opening.



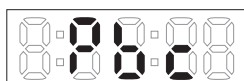
Appears when the disc tray is closing.



Appears when a disc is loaded on the disc tray.

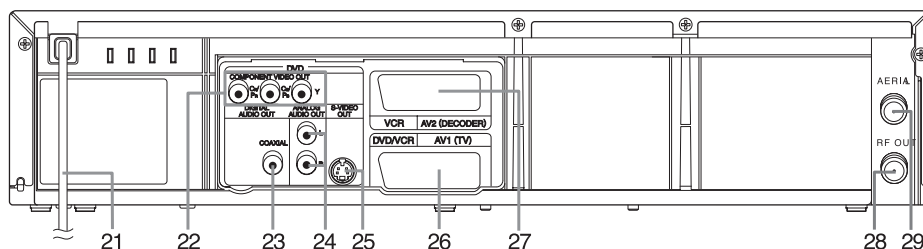


Appears when a disc or tape is being played back.



Appears when the PBC function is activated (Video CD playback only.)

Rear Terminals



21. MAIN (AC power cord)

Connect to a standard AC plug.

22. COMPONENT VIDEO OUT Jacks (DVD only)

Connect optional component Video cable here through the component video in jacks of a TV.

23. COAXIAL DIGITAL AUDIO OUT Jack (DVD only)

Connect to a compatible Dolby Digital receiver. Use to connect to a Dolby Digital decoder, DTS decoder, or MPEG decoder.

24. AUDIO OUT Jacks (Analog Left/Right) (DVD only)

Connect to the Audio input jacks of A/V-compatible TV.

25. S-VIDEO OUT Jacks (DVD only)

Use the S-Video cable to connect this jack to the S-Video jack on your A/V-compatible TV or wide screen TV for a higher quality picture.

26. EURO AV1 (TV) Terminal

Use the scart cable to connect this terminal to the 21-pin scart terminal on your A/V-compatible TV or wide screen TV for a best quality picture.

If your TV has RCA type audio and video input jacks, you may connect to this terminal through the SCART output adaptor (supplied).

27. EURO AV2 (DECODER) Terminal (VCR only)

Use the scart cable to connect this terminal to the 21-pin scart terminal on your decoder.

28. RF OUT Jack

Use the supplied round coaxial cable to connect this jack to the ANTENNA IN jack on your TV.

29. AERIAL Jack

Connect your antenna, Cable Box, or Direct Broadcast System.

VCR/DVD SWITCHING

Because this product is a combination of a VCR and a DVD player, you must select first which component you wish to operate with **OUTPUT**.

VCR MODE

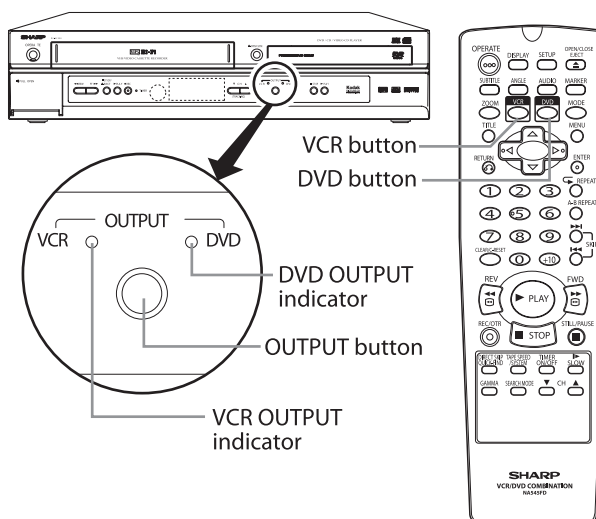
Press **VCR** on the remote control.
(Verify that the VCR OUTPUT indicator is lit.)

DVD MODE

Press **DVD** on the remote control.
(Verify that the DVD OUTPUT indicator is lit.)

Hint

- Pressing only **OUTPUT** on the front panel DOES NOT switch the mode of the remote control. You MUST select the correct mode on the remote control. In the wrong mode, the VCR/DVD does not respond to your commands correctly. Before starting your desired operation, select the correct mode by following the instruction (press first, or press first) under the subject heading.



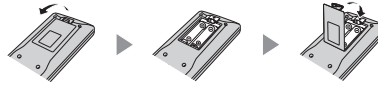
ABOUT THE REMOTE CONTROL

Installing the Batteries for the Remote Control

Install two R-6 batteries (supplied) matching the polarity indicated inside battery compartment of the remote control.

Hint

- Do not mix alkaline and manganese batteries.
- Do not mix old and new batteries.

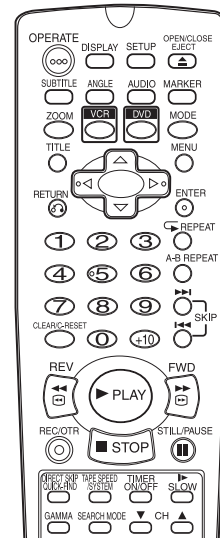
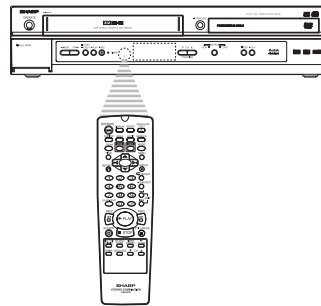


Operable Range

Keep in mind the following when using the remote control:

- Make sure that there is no obstacle between the remote control and the remote sensor on the VCR/DVD.
- The maximum operable range as follows;









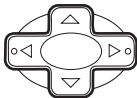



















- Beeline:** approximately 7 m (23 feet)
Either side of centre: approximately 5 m (16 feet) within 30 degrees
Above: approximately 5 m (16 feet) within 15 degrees
Below: approximately 3 m (10 feet) within 30 degrees



Buttons for DVD Only

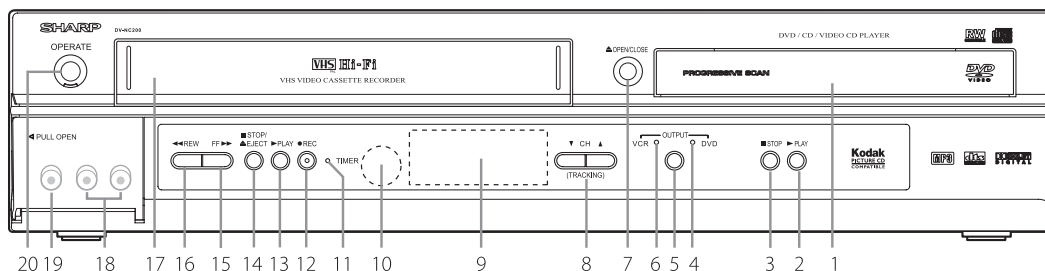
Media type Button (Alphabetical order)	DVD mode			
A-B REPEAT 	• Repeats playback of a selected section.		• Repeats playback of a selected section (VCD, CD).	
ANGLE 	• Press to change the camera angle to see the sequence being played back from a different angle (DVD-Video).		—	
	• Press to select DVD output mode and to use the remote control in DVD mode.		• Press to select DVD output mode and to use the remote control in DVD mode.	
ENTER 	• Press to accept a setting.		• Press to accept a setting.	
GAMMA 	• Press to adjust the black parts of the picture brighter.		• Press to adjust the black parts of the picture brighter (VCD).	
MARKER 	• Press to call back the Marker display.		• Press to call back the Marker display (VCD, CD).	
MODE 	• Activates Virtual Surround or Rapid Play.		• Activates programmed playback, random playback or folder playback mode (CD, MP3, JPEG). • Activates the 3D sound (VCD, CD).	
REPEAT 	• Repeats playback of the current disc, title or chapter.		• Repeats playback of the current disc, group or track.	
RETURN 	• Returns to the previous operation.		• Returns to the previous operation.	
SETUP 	• Press to enter the setup mode or to change setup items.		• Press to enter the setup mode or to change setup items.	
SKIP 	• Press to skip chapters or titles.		• Press to skip tracks.	
SUBTITLE 	• Press to select a desired subtitle language.		—	
TITLE 	• Displays the title menu.		• Press to return to the first hierarchy in the programme and file list when the file list is the second hierarchy or deeper (MP3, JPEG).	
ZOOM 	• Enlarges part of a DVD-reproduced image.		• Enlarges part of a reproduced image (VCD, JPEG).	

Buttons for Both VCR and DVD

Media type Button (Alphabetical order)	DVD mode				VCR mode
				  	
	<ul style="list-style-type: none"> Press to select chapter or title directly. 		<ul style="list-style-type: none"> Press to select track directly. 		<ul style="list-style-type: none"> Press to select channel (except for +10 key).
	<ul style="list-style-type: none"> (up/down/left/right) Press to select an item in the menu and to move the cursor. 		<ul style="list-style-type: none"> (up/down/left/right) Press to select an item in the menu and to move the cursor. 		<ul style="list-style-type: none"> (up/down/left/right) Press to select an item in the menu and to move the cursor.
	<ul style="list-style-type: none"> Press to select a desired audio language or sound mode. 		<ul style="list-style-type: none"> Press to select a desired sound mode (VCD, CD). 		<ul style="list-style-type: none"> Press to select a desired sound mode.
	—		—		<ul style="list-style-type: none"> Press to change TV channels or to adjust the tracking manual.
	<ul style="list-style-type: none"> Press to clear the markers or the incorrect input. 		<ul style="list-style-type: none"> Press to clear the markers or the incorrect input. 		<ul style="list-style-type: none"> Press to reset the counter.
	<ul style="list-style-type: none"> Press to search chapter, title or time. 		<ul style="list-style-type: none"> Press to search track. Press to search time (VCD, CD). 		<ul style="list-style-type: none"> Press to skip to the beginning of the next programme.
	<ul style="list-style-type: none"> Press to display the current playback mode. 		<ul style="list-style-type: none"> Press to display the current playback mode. 		<ul style="list-style-type: none"> Press to display the current time, tape counter and channel number.
	<ul style="list-style-type: none"> Press to begin fast forward playback to a desired point. Press to begin slow forward playback during the pause mode. 		<ul style="list-style-type: none"> Press to begin fast forward playback to a desired point (VCD, CD, MP3). Press to begin slow forward playback during the pause mode (VCD). 		<ul style="list-style-type: none"> Fast forwards playback to a desired point. Press to forward in slow motion faster.
	<ul style="list-style-type: none"> Press to display the DVD menus. 		<ul style="list-style-type: none"> Press to display the MP3 or JPEG file lists. 		<ul style="list-style-type: none"> Press to display the VCR menu.
	<ul style="list-style-type: none"> Press to insert discs into or remove them from the tray. 		<ul style="list-style-type: none"> Press to insert discs into or remove them from the tray. 		<ul style="list-style-type: none"> Press to remove the tape from the VCR.
	<ul style="list-style-type: none"> Press to turn the power on and off. 		<ul style="list-style-type: none"> Press to turn the power on and off. 		<ul style="list-style-type: none"> Press to turn the power on and off.
	<ul style="list-style-type: none"> Press to begin playback. 		<ul style="list-style-type: none"> Press to begin playback. 		<ul style="list-style-type: none"> Press to begin playback.
	—		—		<ul style="list-style-type: none"> Press once to start recording or repeatedly to start One Touch Recording.
	<ul style="list-style-type: none"> Press to begin fast reverse playback to a desired point. Press to begin slow reverse playback during the pause mode. 		<ul style="list-style-type: none"> Press to begin fast reverse playback to a desired point (VCD, CD, MP3). 		<ul style="list-style-type: none"> Fast reverse playback to a desired point. Press to reverse in slow motion slower.
	—		—		<ul style="list-style-type: none"> Press to call up the index or time search menu.
	—		—		<ul style="list-style-type: none"> Press to view the video tape in slow motion.
	<ul style="list-style-type: none"> Press to pause playback or to advance playback one frame at a time. 		<ul style="list-style-type: none"> Press to pause playback. 		<ul style="list-style-type: none"> Press to pause playback or recording or to advance playback one frame at a time.
	<ul style="list-style-type: none"> Press to stop playback. 		<ul style="list-style-type: none"> Press to stop playback. 		<ul style="list-style-type: none"> Press to stop playback or recording.
	—		—		<ul style="list-style-type: none"> Press to select the VCR's recording speed (SP or LP). To change the VCR system for matching recorded system (PAL or MESECAM).
	—		—		<ul style="list-style-type: none"> Press to put the VCR into standby mode for a Timer Recording.
	—		—		<ul style="list-style-type: none"> Press to select VCR output mode and to use the remote control in VCR mode.

FUNCTIONAL OVERVIEW

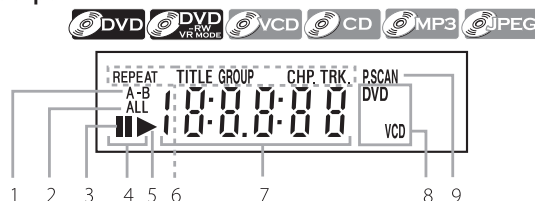
Front Panel



1. **Disc Tray**
2. **PLAY (DVD)**
To begin disc playback.
3. **STOP (DVD)**
To stop playback.
4. **DVD OUTPUT Indicator**
The indicator is on when this VCR/DVD is in the DVD mode. Make sure that this indicator is on before using the DVD player.
5. **OUTPUT**
To select the DVD mode or VCR mode.
6. **VCR OUTPUT Indicator**
The indicator is on when this VCR/DVD is in the VCR mode. Make sure that this indicator is on before VCR operation.
7. **OPEN/CLOSE (DVD)**
To open or close the disc tray.
8. **CHANNEL**
To change TV channels.
To adjust the tracking manually during VCR playback.
9. **Display**
10. **Remote Sensor**
11. **TIMER Indicator**
The indicator is on when the VCR/DVD is in standby mode for a Timer Recording or during a One Touch Recording.
12. **REC (VCR)**
Press once to start recording or repeatedly to start One Touch Recording. The indicator is on during recording.
13. **PLAY (VCR)**
To begin tape playback.
14. **STOP/EJECT (VCR)**
To stop playback. To eject the tape in the stop mode.
15. **FF (VCR)**
To fast forward the tape.
16. **REW (VCR)**
To rewind the tape.
17. **Cassette Compartment**
18. **AUDIO IN Jacks (AV3 / VCR only)**
Connect Audio cable coming from the audio out jacks of a camcorder, another VCR, or an audio source here.
19. **VIDEO IN Jack (AV3 / VCR only)**
Connect a cable coming from the video out jack of a camcorder, another VCR or an audio-visual source (laser disc player, video disc player, etc.) here.
20. **OPERATE**
To turn the VCR/DVD ON or OFF.
The indicator is on when this VCR/DVD is turned on.

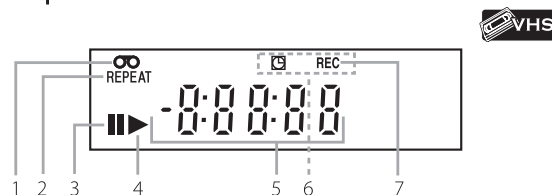
Display

DVD Output Mode



1. Lights up when the A-B repeat function is on.
2. Lights up when the ALL repeat function is on.
3. Lights up when the inserted disc comes to a pause.
4. Lights up when playing back in slow mode (DVD or Video CD).
5. Lights up when the inserted disc is being played back.
6. Lights up when the repeat function is on.
7. Displays how long the current title or track has been played back. When a chapter or track is switched, the number of a new title, chapter or track is displayed.
8. Displays a type of the disc which is inserted on the tray.
• DVD : DVD
• CD : Audio CD, MP3, JPEG, Kodak Picture CD
• VCD : Video CD
9. Lights up when the progressive scan system is activated.

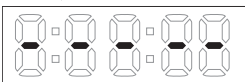
VCR Output Mode



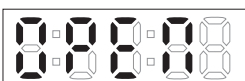
1. *Lights up when a tape is in the VCR/DVD.
2. Lights up during playback when the repeat function is on.
3. Lights up when the playback is in still or slow mode.
4. Lights up when the inserted cassette is being played back.
5. Works as a tape counter (hour, minute, second). Also displays a channel number, tape speed, remaining time for OTR or current time.
6. *Lights up when the Timer Recording or an OTR recording has been set.
7. *Lights up during a recording. Flashes when a recording is paused.

* , and mark will disappear when you set VCR/DVD in DVD mode. However, the function indicated by each mark is still working.

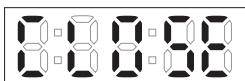
Display During Operation



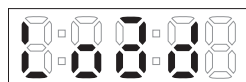
No disc inserted / cannot read disc



Appears when the disc tray is opening.



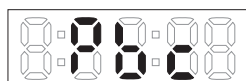
Appears when the disc tray is closing.



Appears when a disc is loaded on the disc tray.

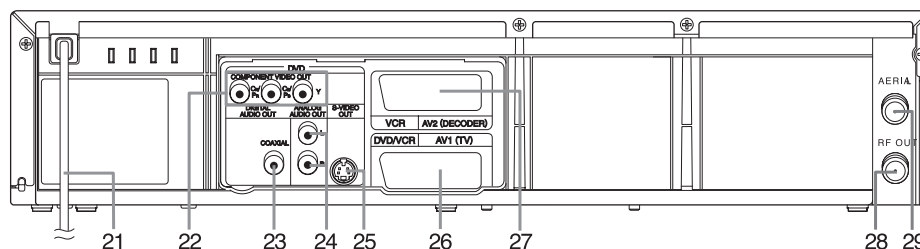


Appears when a disc or tape is being played back.



Appears when the PBC function is activated (Video CD playback only.)

Rear Terminals



21. MAIN (AC power cord)

Connect to a standard AC plug.

22. COMPONENT VIDEO OUT Jacks (DVD only)

Connect optional component Video cable here through the component video in jacks of a TV.

23. COAXIAL DIGITAL AUDIO OUT Jack (DVD only)

Connect to a compatible Dolby Digital receiver. Use to connect to a Dolby Digital decoder, DTS decoder, or MPEG decoder.

24. AUDIO OUT Jacks (Analog Left/Right) (DVD only)

Connect to the Audio input jacks of A/V-compatible TV.

25. S-VIDEO OUT Jacks (DVD only)

Use the S-Video cable to connect this jack to the S-Video jack on your A/V-compatible TV or wide screen TV for a higher quality picture.

26. EURO AV1 (TV) Terminal

Use the scart cable to connect this terminal to the 21-pin scart terminal on your A/V-compatible TV or wide screen TV for a best quality picture. If your TV has RCA type audio and video input jacks, you may connect to this terminal through the SCART output adaptor (supplied).

27. EURO AV2 (DECODER) Terminal (VCR only)

Use the scart cable to connect this terminal to the 21-pin scart terminal on your decoder.

28. RF OUT Jack

Use the supplied round coaxial cable to connect this jack to the ANTENNA IN jack on your TV.

29. AERIAL Jack

Connect your antenna, Cable Box, or Direct Broadcast System.

VCR/DVD SWITCHING

Because this product is a combination of a VCR and a DVD player, you must select first which component you wish to operate with **OUTPUT**.

VCR MODE

Press **VCR** on the remote control.

(Verify that the VCR OUTPUT indicator is lit.)

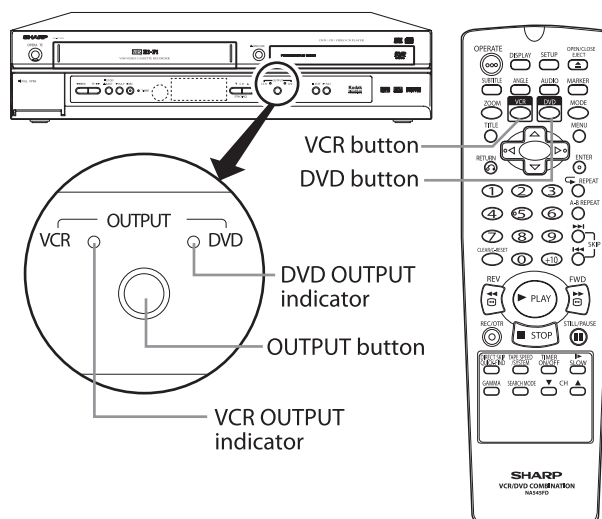
DVD MODE

Press **DVD** on the remote control.

(Verify that the DVD OUTPUT indicator is lit.)

Hint

- Pressing only **OUTPUT** on the front panel DOES NOT switch the mode of the remote control. You MUST select the correct mode on the remote control. In the wrong mode, the VCR/DVD does not respond to your commands correctly. Before starting your desired operation, select the correct mode by following the instruction (press **VCR** first, or press **DVD** first) under the subject heading.



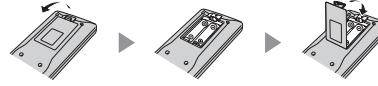
ABOUT THE REMOTE CONTROL

Installing the Batteries for the Remote Control

Install two R-6 batteries (supplied) matching the polarity indicated inside battery compartment of the remote control.

Hint

- Do not mix alkaline and manganese batteries.
- Do not mix old and new batteries.

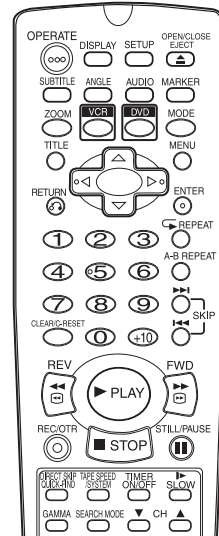
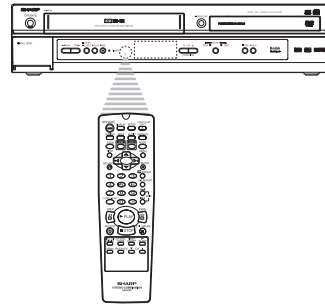


Operable Range

Keep in mind the following when using the remote control:

- Make sure that there is no obstacle between the remote control and the remote sensor on the VCR/DVD.
- The maximum operable range as follows;








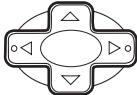



















- Beeline:** approximately 7 m (23 feet)
Either side of centre: approximately 5 m (16 feet) within 30 degrees
Above: approximately 5 m (16 feet) within 15 degrees
Below: approximately 3 m (10 feet) within 30 degrees



Buttons for DVD Only

Button (Alphabetical order)	Media type	
	<ul style="list-style-type: none"> • Repeats playback of a selected section. 	<ul style="list-style-type: none"> • Repeats playback of a selected section (VCD, CD).
	<ul style="list-style-type: none"> • Press to change the camera angle to see the sequence being played back from a different angle (DVD-Video). 	—
	<ul style="list-style-type: none"> • Press to select DVD output mode and to use the remote control in DVD mode. 	<ul style="list-style-type: none"> • Press to select DVD output mode and to use the remote control in DVD mode.
	<ul style="list-style-type: none"> • Press to accept a setting. 	<ul style="list-style-type: none"> • Press to accept a setting.
	<ul style="list-style-type: none"> • Press to adjust the black parts of the picture brighter. 	<ul style="list-style-type: none"> • Press to adjust the black parts of the picture brighter (VCD).
	<ul style="list-style-type: none"> • Press to call back the Marker display. 	<ul style="list-style-type: none"> • Press to call back the Marker display (VCD, CD).
	<ul style="list-style-type: none"> • Activates Virtual Surround or Rapid Play. 	<ul style="list-style-type: none"> • Activates programmed playback, random playback or folder playback mode (CD, MP3, JPEG). • Activates the 3D sound (VCD, CD).
	<ul style="list-style-type: none"> • Repeats playback of the current disc, title or chapter. 	<ul style="list-style-type: none"> • Repeats playback of the current disc, group or track.
	<ul style="list-style-type: none"> • Returns to the previous operation. 	<ul style="list-style-type: none"> • Returns to the previous operation.
	<ul style="list-style-type: none"> • Press to enter the setup mode or to change setup items. 	<ul style="list-style-type: none"> • Press to enter the setup mode or to change setup items.
	<ul style="list-style-type: none"> • Press to skip chapters or titles. 	<ul style="list-style-type: none"> • Press to skip tracks.
	<ul style="list-style-type: none"> • Press to select a desired subtitle language. 	—
	<ul style="list-style-type: none"> • Displays the title menu. 	<ul style="list-style-type: none"> • Press to return to the first hierarchy in the programme and file list when the file list is the second hierarchy or deeper (MP3, JPEG).
	<ul style="list-style-type: none"> • Enlarges part of a DVD-reproduced image. 	<ul style="list-style-type: none"> • Enlarges part of a reproduced image (VCD, JPEG).

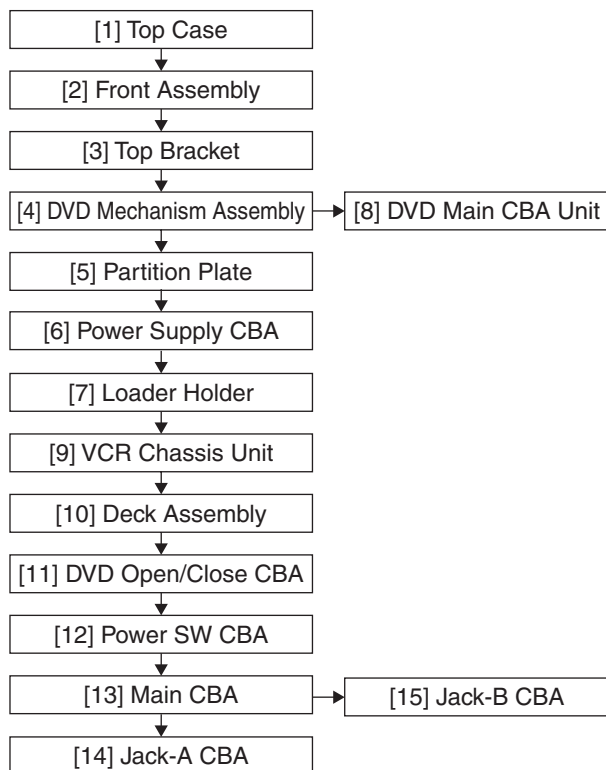
Buttons for Both VCR and DVD

Media type Button (Alphabetical order)	DVD mode				VCR mode
	 	   			
① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩ <10	• Press to select chapter or title directly.	• Press to select track directly.			• Press to select channel (except for +10 key).
	• (up/down/left/right) Press to select an item in the menu and to move the cursor.	• (up/down/left/right) Press to select an item in the menu and to move the cursor.			• (up/down/left/right) Press to select an item in the menu and to move the cursor.
AUDIO 	• Press to select a desired audio language or sound mode.	• Press to select a desired sound mode (VCD, CD).			• Press to select a desired sound mode.
CH 	—	—			• Press to change TV channels or to adjust the tracking manual.
CLEAR/C-RESET 	• Press to clear the markers or the incorrect input.	• Press to clear the markers or the incorrect input.			• Press to reset the counter.
DIRECT SKIP QUICK FIND 	• Press to search chapter, title or time.	• Press to search track. • Press to search time (VCD, CD).			• Press to skip to the beginning of the next programme.
DISPLAY 	• Press to display the current playback mode.	• Press to display the current playback mode.			• Press to display the current time, tape counter and channel number.
FWD 	• Press to begin fast forward playback to a desired point. • Press to begin slow forward playback during the pause mode.	• Press to begin fast forward playback to a desired point (VCD, CD, MP3). • Press to begin slow forward playback during the pause mode (VCD).			• Fast forwards playback to a desired point. • Press to forward in slow motion faster.
MENU 	• Press to display the DVD menus.	• Press to display the MP3 or JPEG file lists.			• Press to display the VCR menu.
OPEN/CLOSE EJECT 	• Press to insert discs into or remove them from the tray.	• Press to insert discs into or remove them from the tray.			• Press to remove the tape from the VCR.
OPERATE 	• Press to turn the power on and off.	• Press to turn the power on and off.			• Press to turn the power on and off.
PLAY 	• Press to begin playback.	• Press to begin playback.			• Press to begin playback.
REC/OTR 	—	—			• Press once to start recording or repeatedly to start One Touch Recording.
REV 	• Press to begin fast reverse playback to a desired point. • Press to begin slow reverse playback during the pause mode.	• Press to begin fast reverse playback to a desired point (VCD, CD, MP3).			• Fast reverse playback to a desired point. • Press to reverse in slow motion slower.
SEARCH MODE 	—	—			• Press to call up the index or time search menu.
SLOW 	—	—			• Press to view the video tape in slow motion.
STILL/PAUSE 	• Press to pause playback or to advance playback one frame at a time.	• Press to pause playback.			• Press to pause playback or recording or to advance playback one frame at a time.
STOP 	• Press to stop playback.	• Press to stop playback.			• Press to stop playback or recording.
TAPE SPEED SYSTEM 	—	—			• Press to select the VCR's recording speed (SP or LP). • To change the VCR system for matching recorded system (PAL or MESECAM).
TIMER ON/OFF 	—	—			• Press to put the VCR into standby mode for a Timer Recording.
VCR 	—	—			• Press to select VCR output mode and to use the remote control in VCR mode.

CABINET DISASSEMBLY INSTRUCTIONS

1. Disassembly Flowchart

This flowchart indicates the disassembly steps to gain access to item(s) to be serviced. When reassembling, follow the steps in reverse order. Bend, route, and dress the cables as they were originally.



ID/ LOC. No.	PART	REMOVAL		
		Fig. No.	REMOVE/ *UNHOOK/UNLOCK/ RELEASE/UNPLUG/ DESOLDER	Note
[7]	Loader Holder	3	2(S-6)	-
[8]	DVD Main CBA Unit	4	2(S-7), *CN201, *CN301	2 2-1 2-2 3
[9]	VCR Chassis Unit	5	5(S-8), 2(S-9), 2(S-10), (L-3)	-
[10]	Deck Assembly	6	Desolder, 2(S-11), (S-12)	4,5
[11]	DVD Open/Close CBA	6	Desolder	-
[12]	Power SW CBA	6	Desolder	-
[13]	Main CBA	6	-----	-
[14]	Jack-A CBA	6	Desolder, 2(S-13)	
[15]	Jack-B CBA	6	Jack Plate, 2(S-14) (S-15), Desolder	
①	②	③	④	⑤

2. Disassembly Method

ID/ LOC. No.	PART	REMOVAL		
		Fig. No.	REMOVE/ *UNHOOK/UNLOCK/ RELEASE/UNPLUG/ DESOLDER	Note
[1]	Top Case	1	8(S-1)	-
[2]	Front Assembly	2	*3(L-1), *3(L-2)	1 1-1 1-2
[3]	Top Bracket	2	3(S-2)	-
[4]	DVD Mechanism Assembly	3	4(S-3), *CN401, *CN601	-
[5]	Partition Plate	3	(S-4)	-
[6]	Power Supply CBA	3	2(S-5), *CN501	-

- ① : Identification (location) No. of parts in the figures
 ② : Name of the part
 ③ : Figure Number for reference
 ④ : Identification of parts to be removed, unhooked, unlocked, released, unplugged, unclamped, or desoldered.
 P=Spring, L=Locking Tab, S=Screw,
 CN=Connector,
 *=Unhook, Unlock, Release, Unplug, or Desolder
 e.g. 5(S-1) = five Screws (S-1),
 2(L-2) = two Locking Tabs (L-2)
 ⑤ : Refer to "Reference Notes."

Reference Notes

CAUTION 1: Locking Tabs (L-1) and (L-2) are fragile. Be careful not to break them.

1-1. Release three Locking Tabs (L-1).

1-2. Release three Locking Tabs (L-2), then remove the Front Assembly.

CAUTION 2: Electrostatic breakdown of the laser diode in the optical system block may occur as a potential difference caused by electrostatic charge accumulated on cloth, human body etc., during unpacking or repair work.

To avoid damage of pickup follow next procedures.

2-1. Disconnect Connector (CN301). Remove two Screws (S-7) and lift the DVD Main CBA Unit. (Fig. 4)

2-2. Short the three short lands of FPC cable with solder before removing the FFC cable (CN201) from it. If you disconnect the FFC cable (CN201), the laser diode of pickup will be destroyed. (Fig. 4)

CAUTION 3: When reassembling, confirm the FFC cable (CN201) is connected completely. Then remove the solder from the three short lands of FPC cable. (Fig. 4)

4. When reassembling, solder wire jumpers as shown in Fig. 6.

5. Before installing the Deck Assembly, be sure to place the pin of LD-SW on Main CBA as shown in Fig. 6. Then, install the Deck Assembly while aligning the hole of Cam Gear with the pin of LD-SW, the shaft of Cam Gear with the hole of LD-SW as shown in Fig. 6.

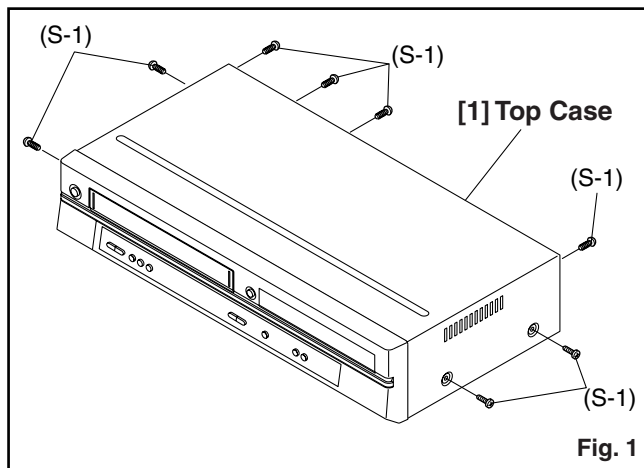


Fig. 1

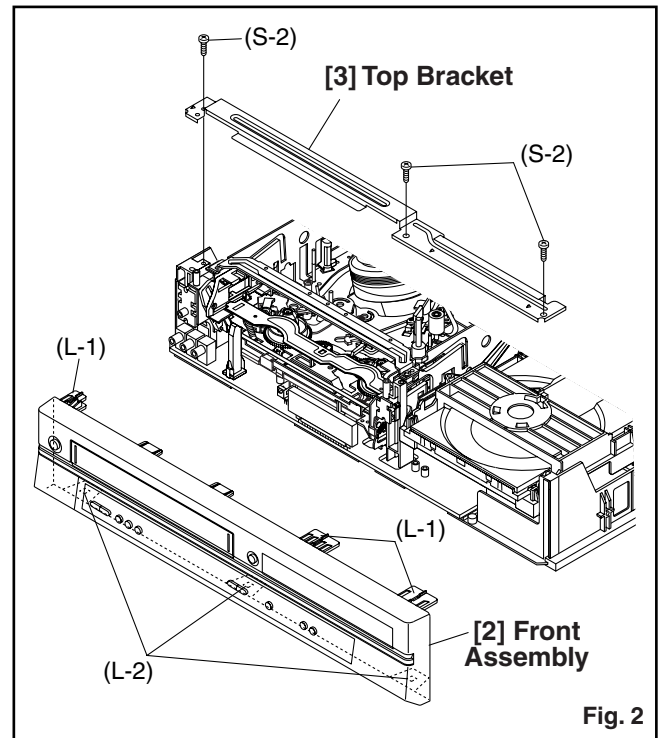


Fig. 2

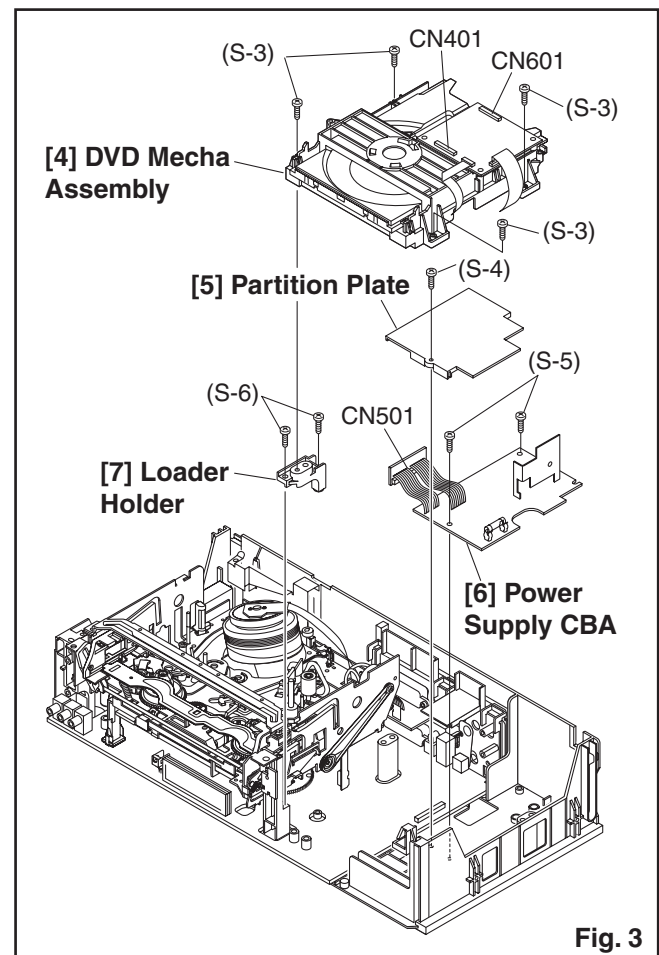
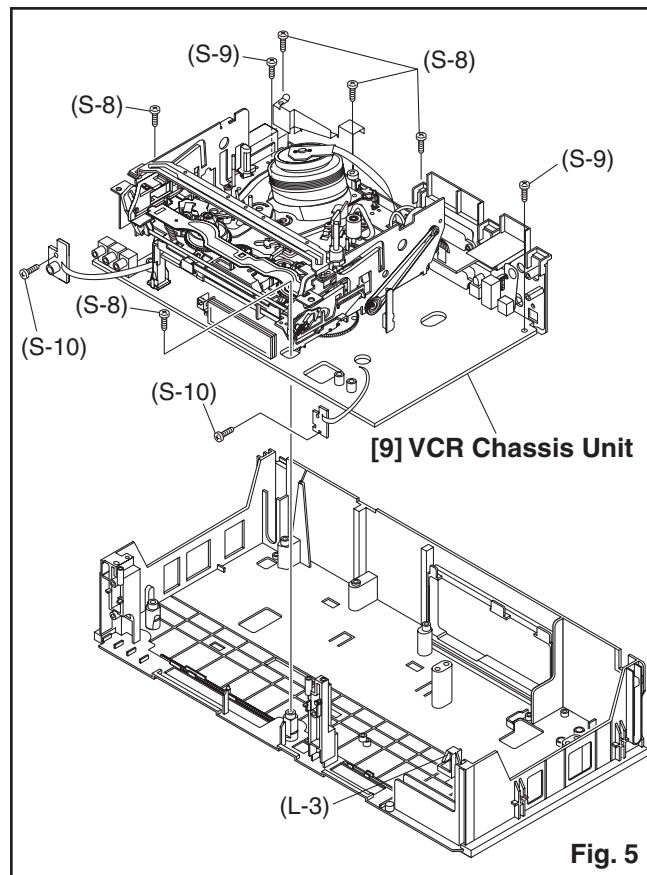
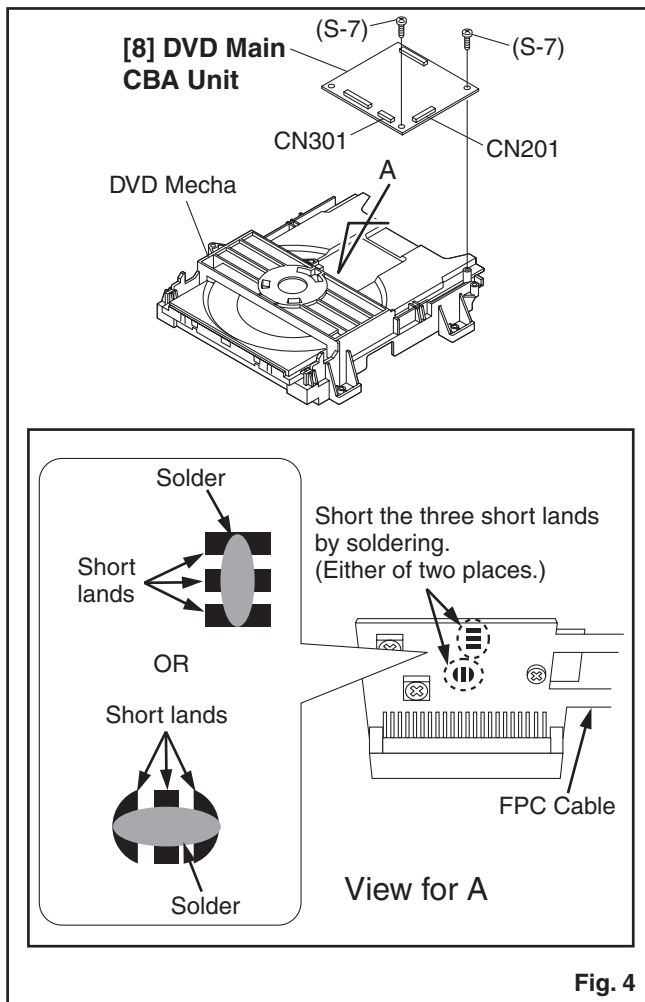


Fig. 3



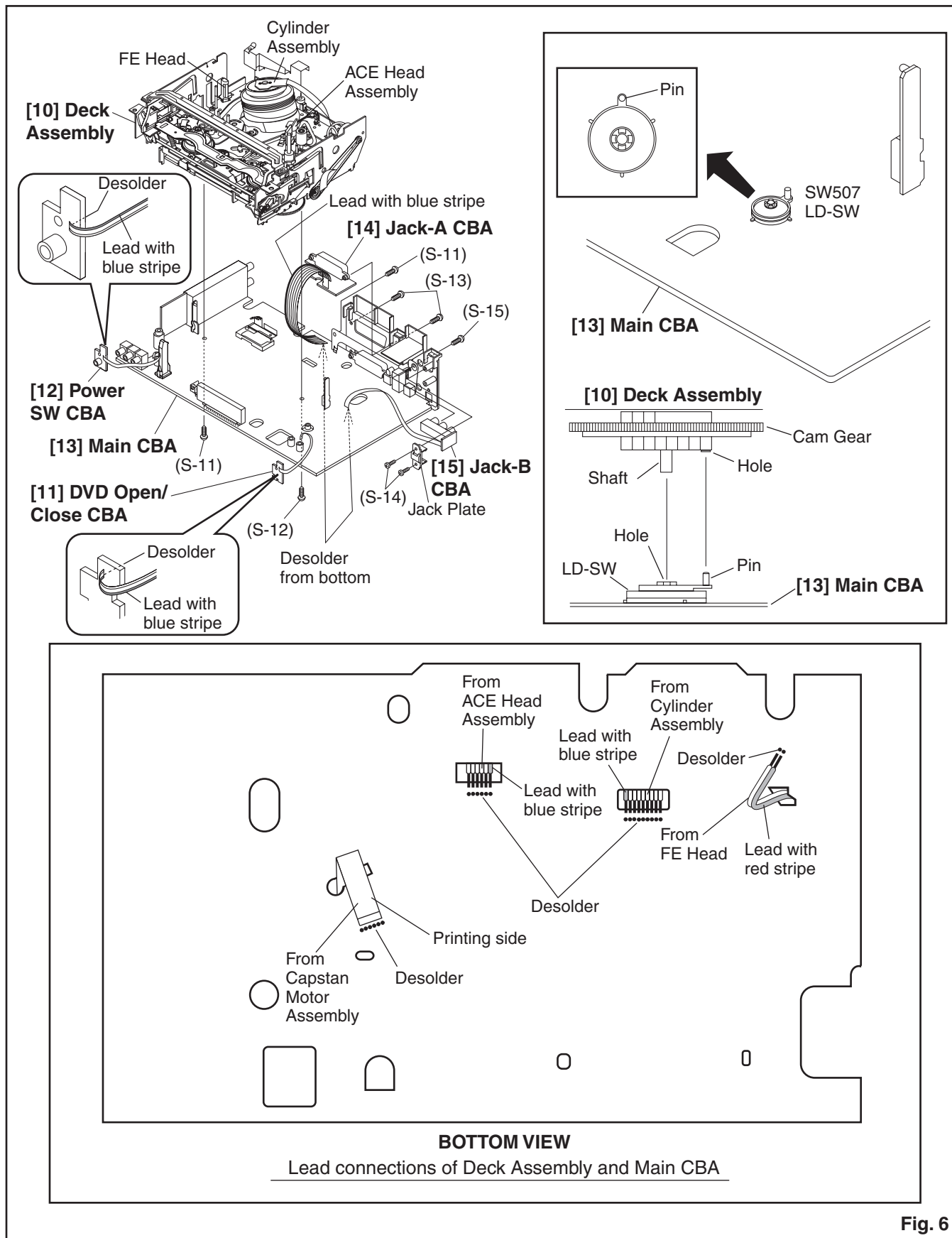
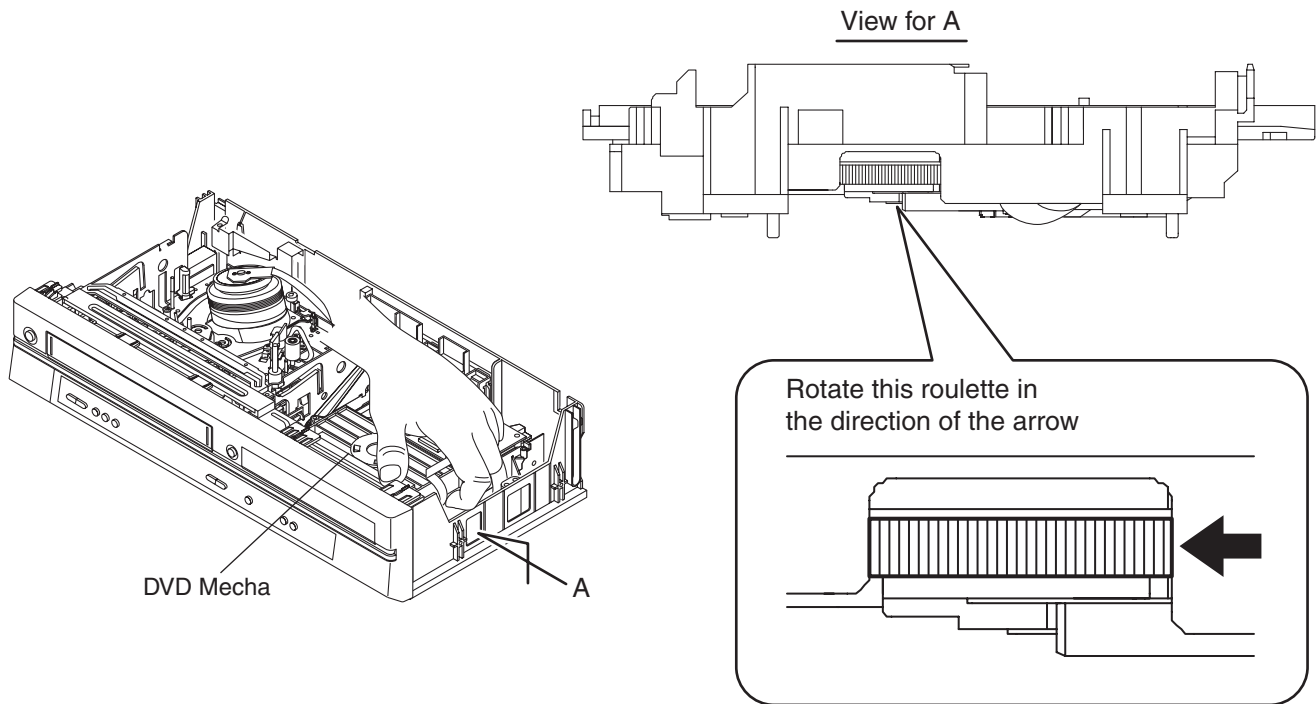


Fig. 6

HOW TO EJECT MANUALLY

1. Remove the Top Case.
2. Rotate the roulette in the direction of the arrow as shown below.
3. Pull the tray slowly manually.



HOW TO INITIALIZE THE DVD PLAYER & VCR

To put the program back at the factory-default, initialize the DVD player & VCR as the following procedure.

[DVD section]

1. Press [DVD], [1], [2], [3], [4], and [DISPLAY] buttons on the remote control unit in that order.
Fig. g appears on the screen.

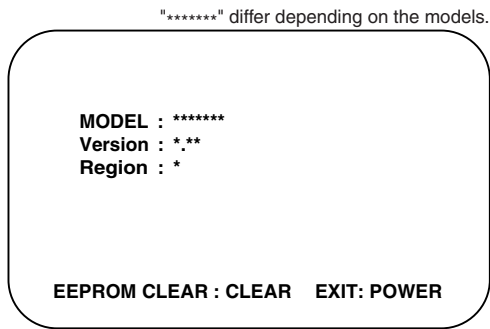


Fig. g

2. Press [CLEAR/C-RESET] button on the remote control unit.
Fig. h appears on the screen.

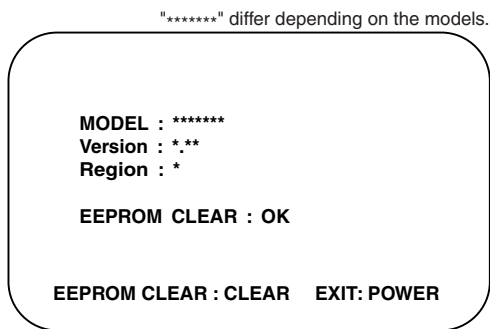


Fig. h

When "OK" appears on the screen, the factory default will be set.

3. To exit this mode, press [OPERATE] button.

ELECTRICAL ADJUSTMENT INSTRUCTIONS

General Note: "CBA" is an abbreviation for "Circuit Board Assembly."

NOTE:

1. Electrical adjustments are required after replacing circuit components and certain mechanical parts. It is important to do these adjustments only after all repairs and replacements have been completed. Also, do not attempt these adjustments unless the proper equipment is available.
2. To perform these alignment / confirmation procedures, make sure that the tracking control is set in the center position: Press either "CH ▲" or "CH ▼" button on the front panel first, then the "PLAY" button on the front panel.

Test Equipment Required

1. Oscilloscope: Dual-trace with 10:1 probe,
V-Range: 0.001~50V/Div.,
F-Range: DC~AC-20MHz
2. Alignment Tape (9HSFL6A) (Refer to "SERVICE FIXTURE AND TOOLS" section.)

Head Switching Position Adjustment

Purpose:

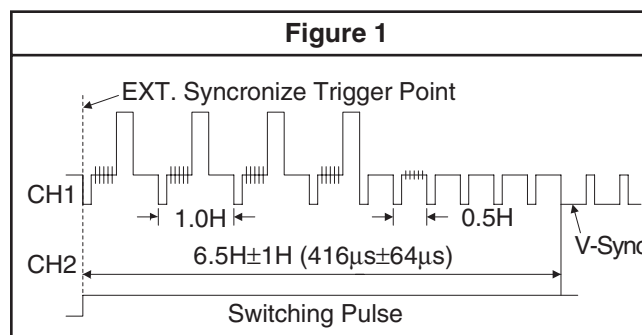
To determine the Head Switching position during playback.

Symptom of Misadjustment:

May cause Head Switching noise or vertical jitter in the picture.

Test point	Adj.Point	Mode	Input
TP751(V-OUT) TP504(RF-SW) GND	VR501 (Switching Point) (MAIN CBA)	PLAY (SP)	-----
Tape	Measurement Equipment	Spec.	
9HSFL6A	Oscilloscope	6.5H ± 1H (416 μS ± 64 μS)	

Connections of Measurement Equipment			
<div><div><div>Main CBA</div><div>TP751</div><div>GND</div><div>TP504</div></div><div><div><div>Oscilloscope</div><div><div></div></div><div>CH1</div><div>CH2</div><div>Trig. (+)</div></div></div></div>			



Reference Notes:

Playback the Alignment tape and adjust VR501 so that the V-sync front edge of the CH1 video output waveform is at the 6.5H±1H (416μs±64μs) delayed position from the rising edge of the CH2 head switching pulse waveform.

FIRMWARE RENEWAL MODE (FIRMWARE VERSION UP)

FIRMWARE is built-in program to operate DVD player. To get rid of error when playing new software (disc) in the market, FIRMWARE version is updated. Perform the following to update the FIRMWARE version.

NOTES:

- This unit can not read data which is written with packet write software (ex. B's Clip).
- The file system should be set to Joliet or ISO9660 (except ISO9660 LEVEL 1).
- Set the CD-ROM to Mode 1 or Mode 2.
- The CD-ROM needs to be finalized (be closed session).

- Turn the power on and remove the disc on the tray.
- To put the DVD player into version up mode, press [DVD], [9], [8], [7], [6], and [DIRECT SKIP] buttons on the remote control unit in that order. The tray will open automatically.

Fig. a appears on the screen and Fig. b appears on the VFD (Vacuum Fluorescent Display).

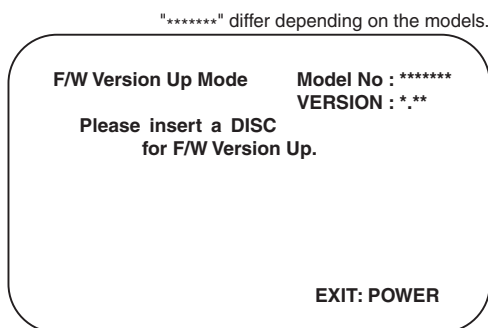


Fig. a Version Up Mode Screen

bE-UP

Fig. b VFD in Version Up Mode

The DVD player can also enter the version up mode with the tray open. In this case, Fig. a will be shown on the screen while the tray is open.

- Load the disc for version up.

- The DVD player enters the F/W version up mode automatically. Fig. c appears on the screen and Fig. d appears on the VFD. If you enter the F/W for different models, "Disc Error" will appear on the screen, then the tray will open automatically.

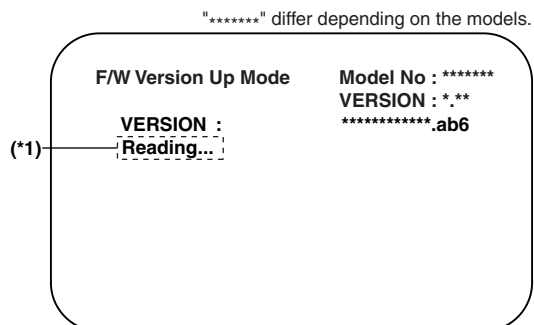


Fig. c Programming Mode Screen

100

Fig. d VFD in Programming Mode (Example)

The appearance shown in (*1) of Fig. c is described as follows:

No.	Appearance	State
1	Reading...	Sending files into the memory
2	Erasing...	Erasing previous version data
3	Programming...	Writing new version data

- After programming is finished, the tray opens automatically. Fig. e appears on the screen and the checksum in (*2) of Fig. e appears on the VFD. (Fig. f)

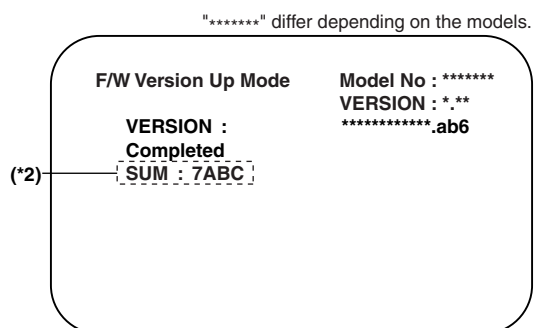


Fig. e Completed Program Mode Screen

7ABC

Fig. f VFD upon Finishing the Programming Mode (Example)

At this time, no buttons is available.

- Remove the disc on the tray.
- Unplug the AC cord from the AC outlet. Then plug it again.

8. Turn the power on by pressing the [OPERATE] button and the tray will close.
9. Press [DVD], [1], [2], [3], [4], and [DISPLAY] buttons on the remote control unit in that order.
Fig. g appears on the screen.

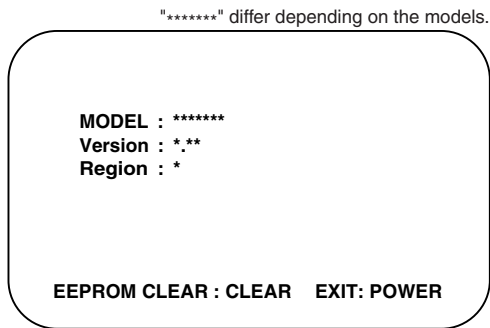


Fig. g

10. Press [CLEAR/C-RESET] button on the remote control unit.
Fig. h appears on the screen.

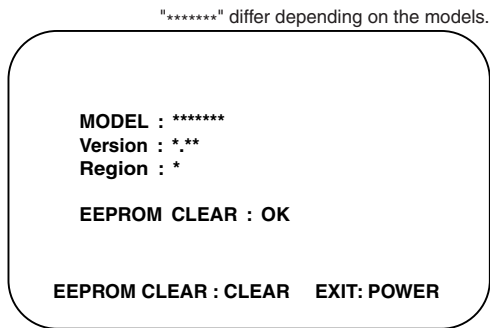


Fig. h

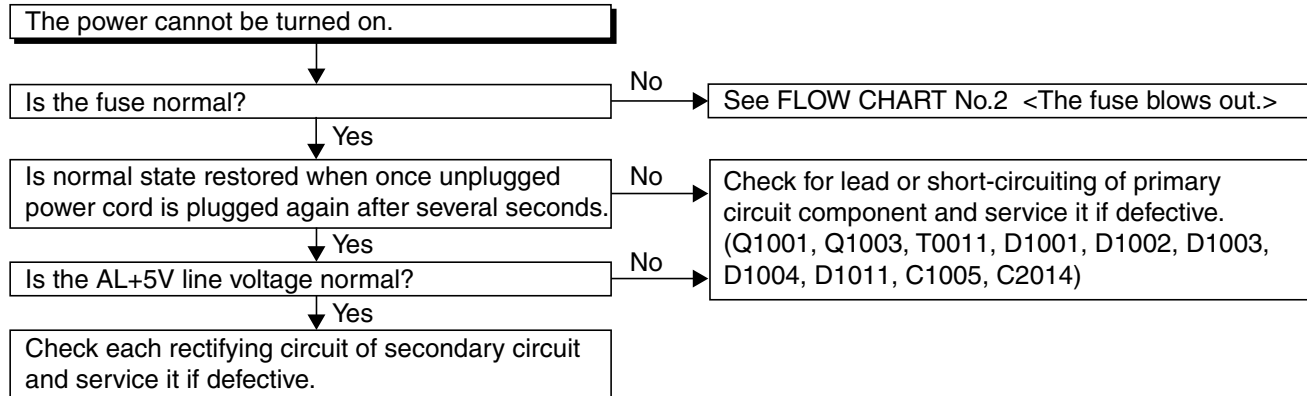
When "OK" appears on the screen, the factory default will be set. Then the firmware renewal mode is complete.

11. To exit this mode, press [OPERATE] button.

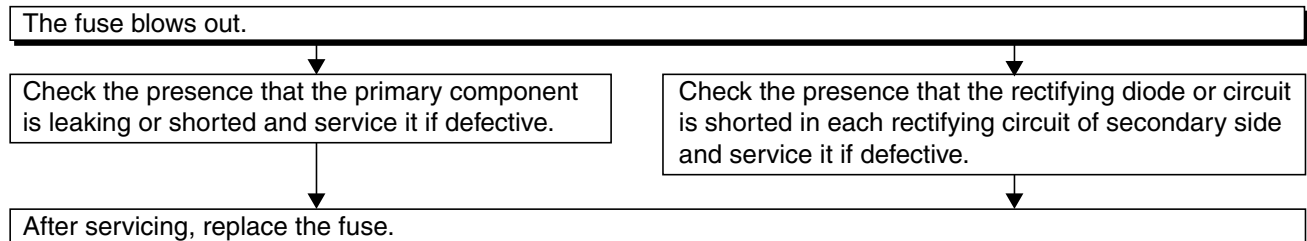
TROUBLESHOOTING

1. Power Supply Section

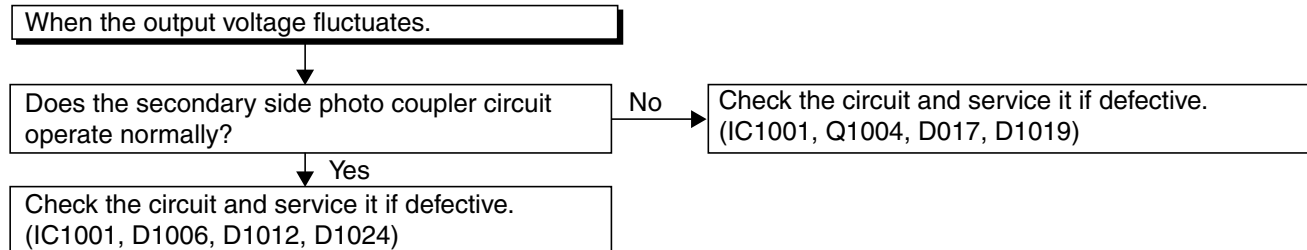
FLOW CHART NO.1



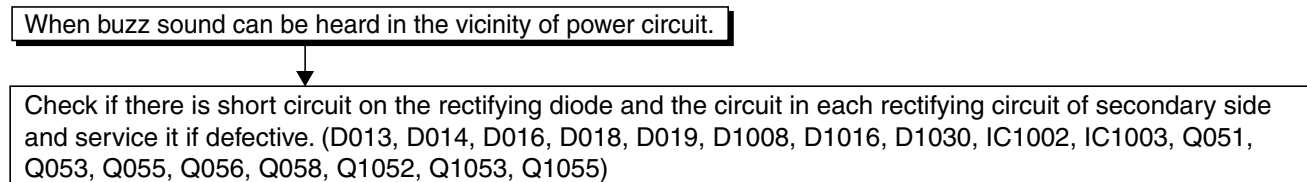
FLOW CHART NO.2



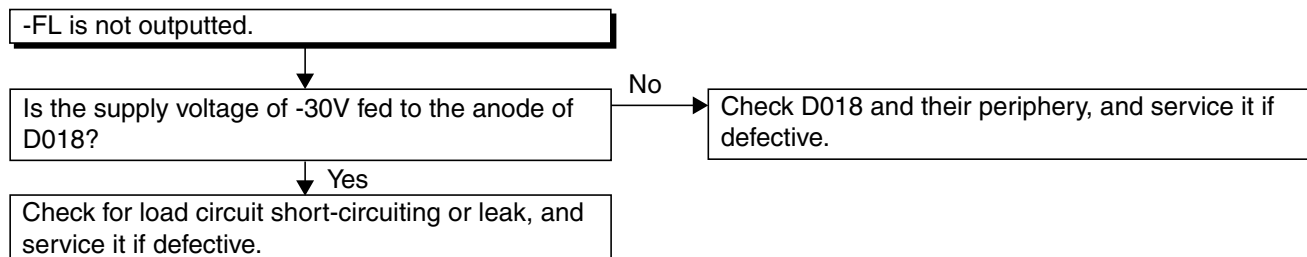
FLOW CHART NO.3



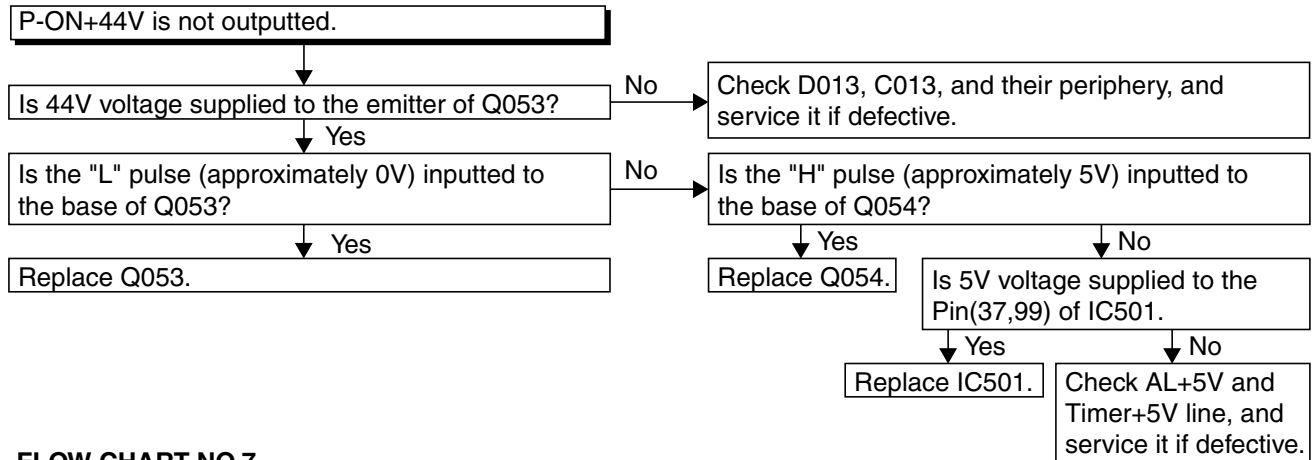
FLOW CHART NO.4



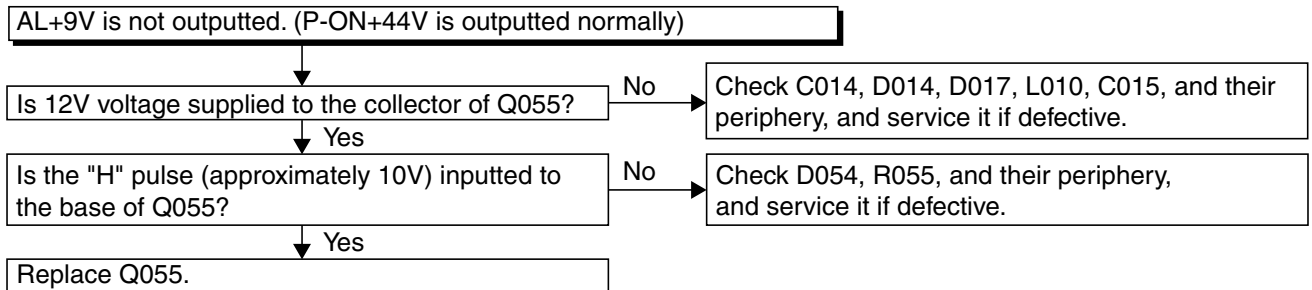
FLOW CHART NO.5



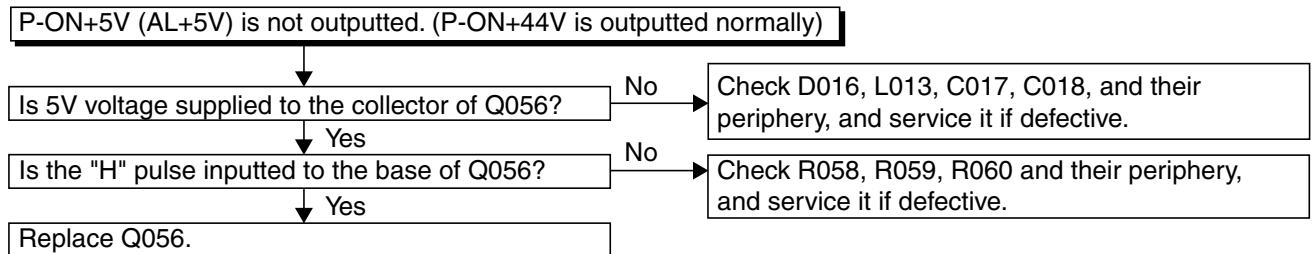
FLOW CHART NO.6



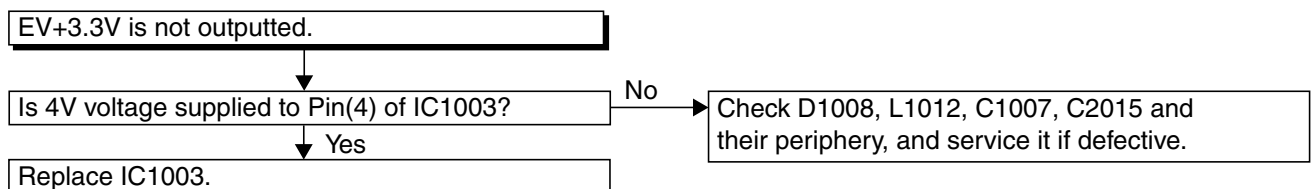
FLOW CHART NO.7



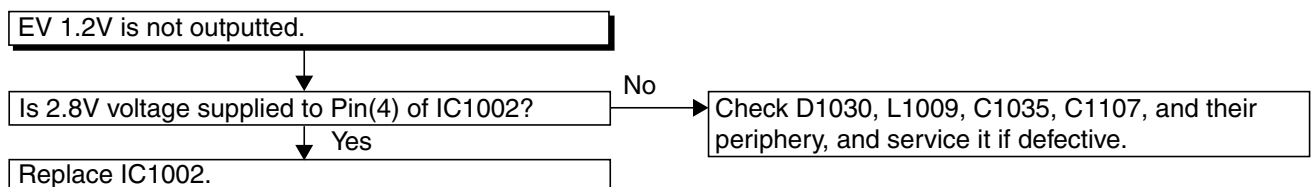
FLOW CHART NO.8



FLOW CHART NO.9

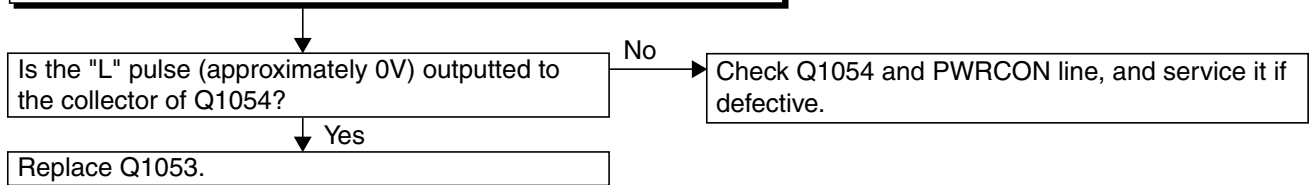


FLOW CHART NO.10



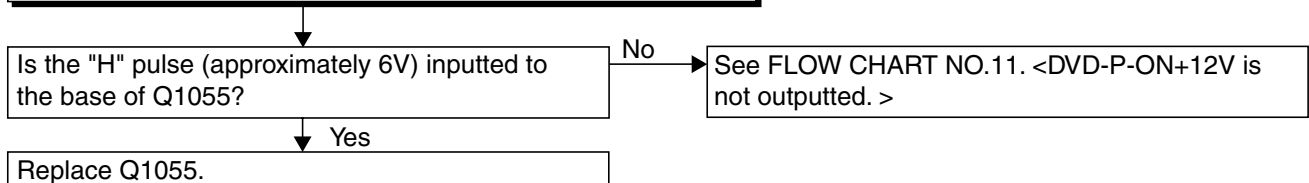
FLOW CHART NO.11

DVD-P-ON+12V is not outputted. (AL+12V is outputted normally.)



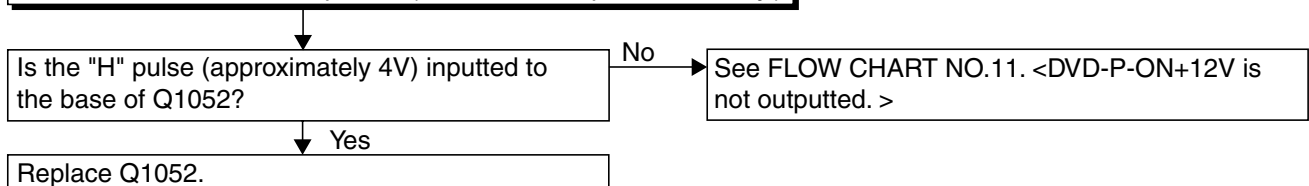
FLOW CHART NO.12

DVD-P-ON+5V is not outputted. (AL+5V is outputted normally.)



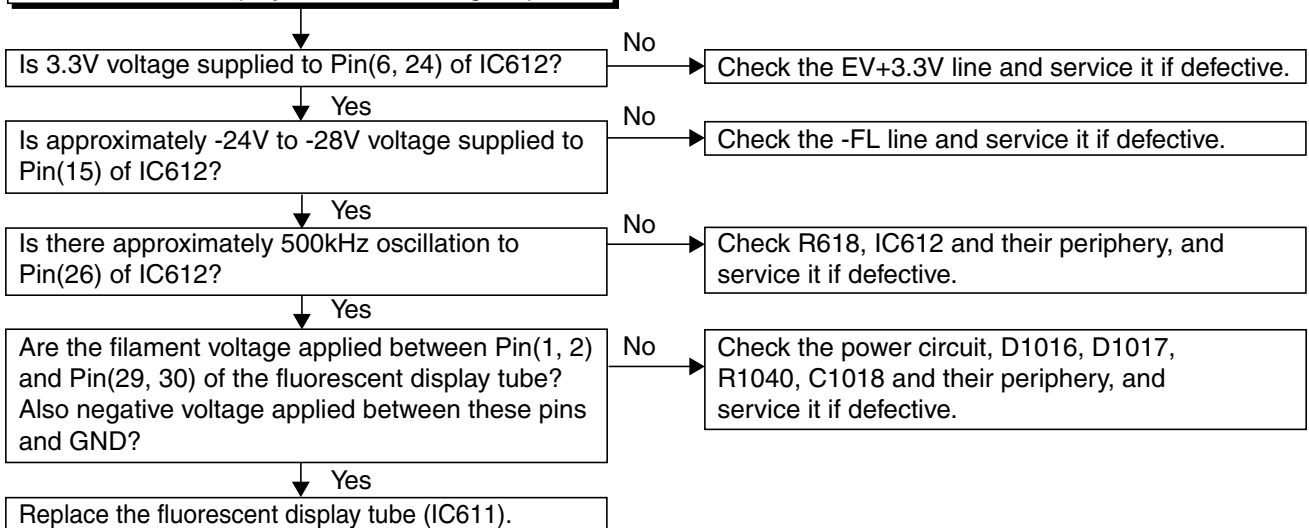
FLOW CHART NO.13

DVD-P-ON+3.3V is not outputted. (EV+3.3V is outputted normally.)



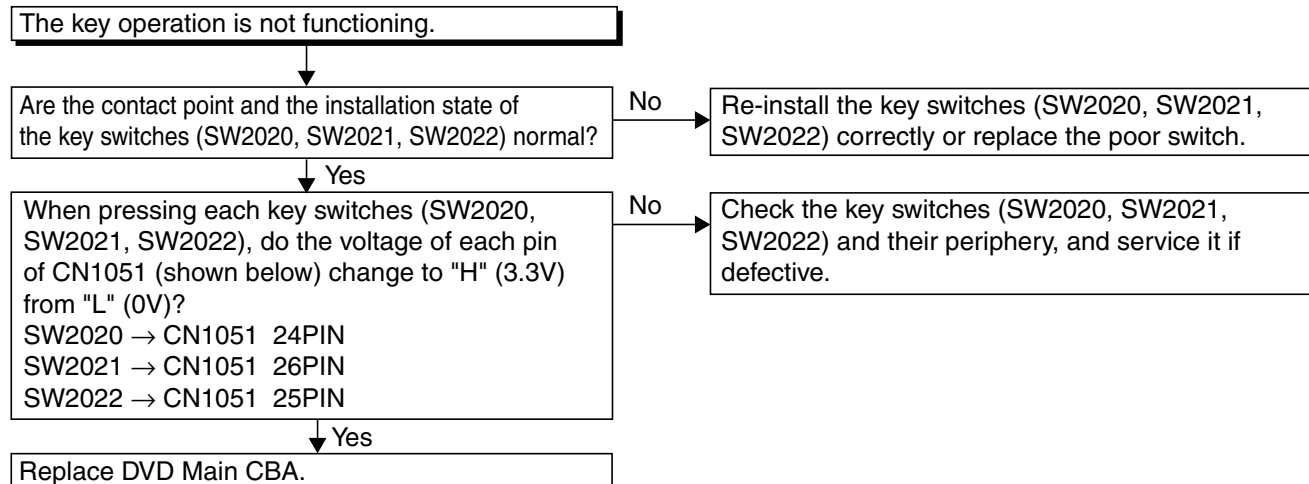
FLOW CHART NO.14

The fluorescent display tube does not light up.

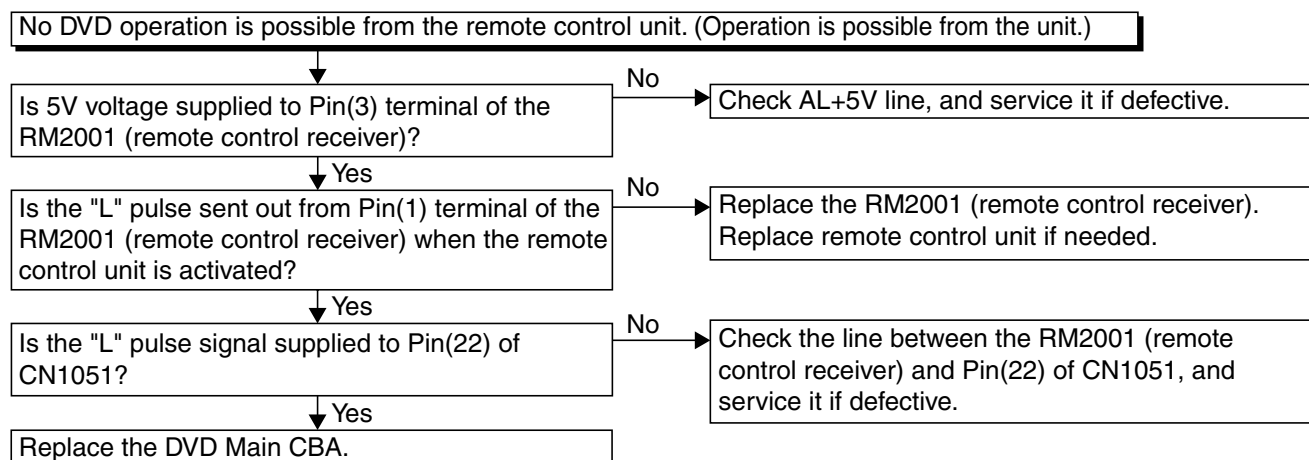


2. DVD Section

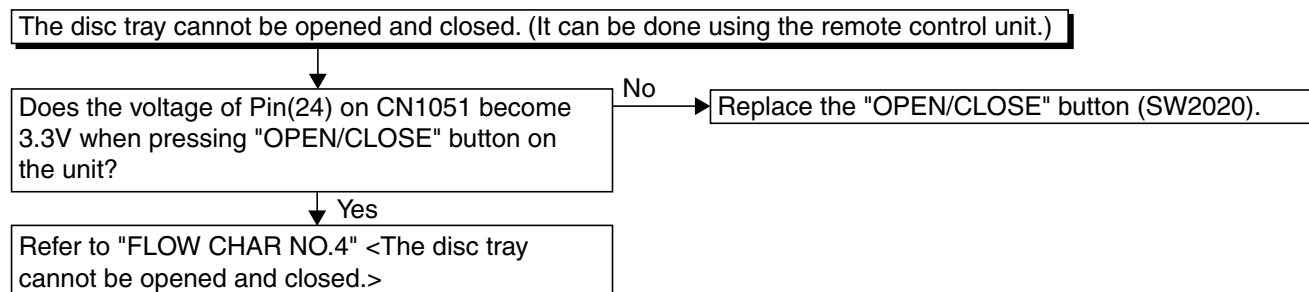
FLOW CHART NO.1



FLOW CHART NO.2

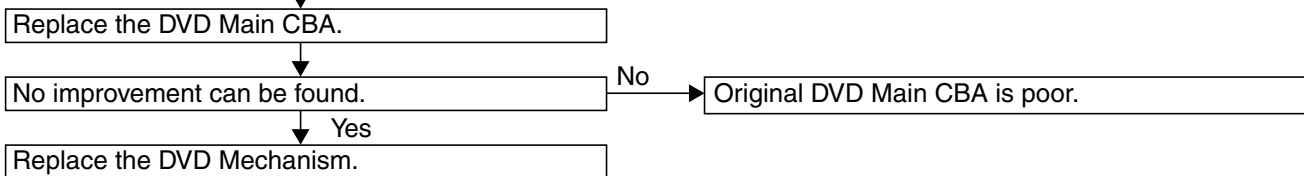


FLOW CHART NO.3



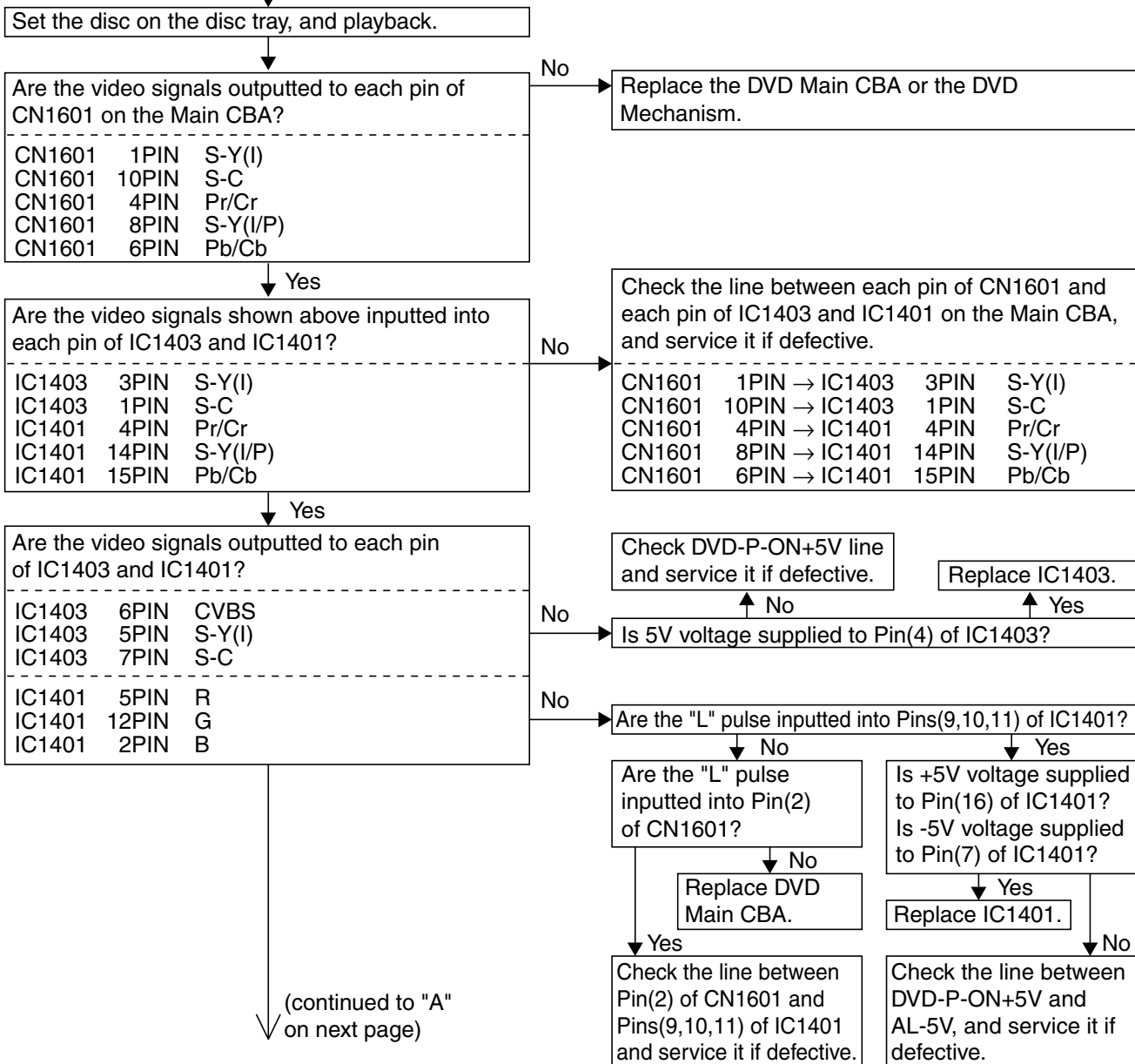
FLOW CHART NO.4

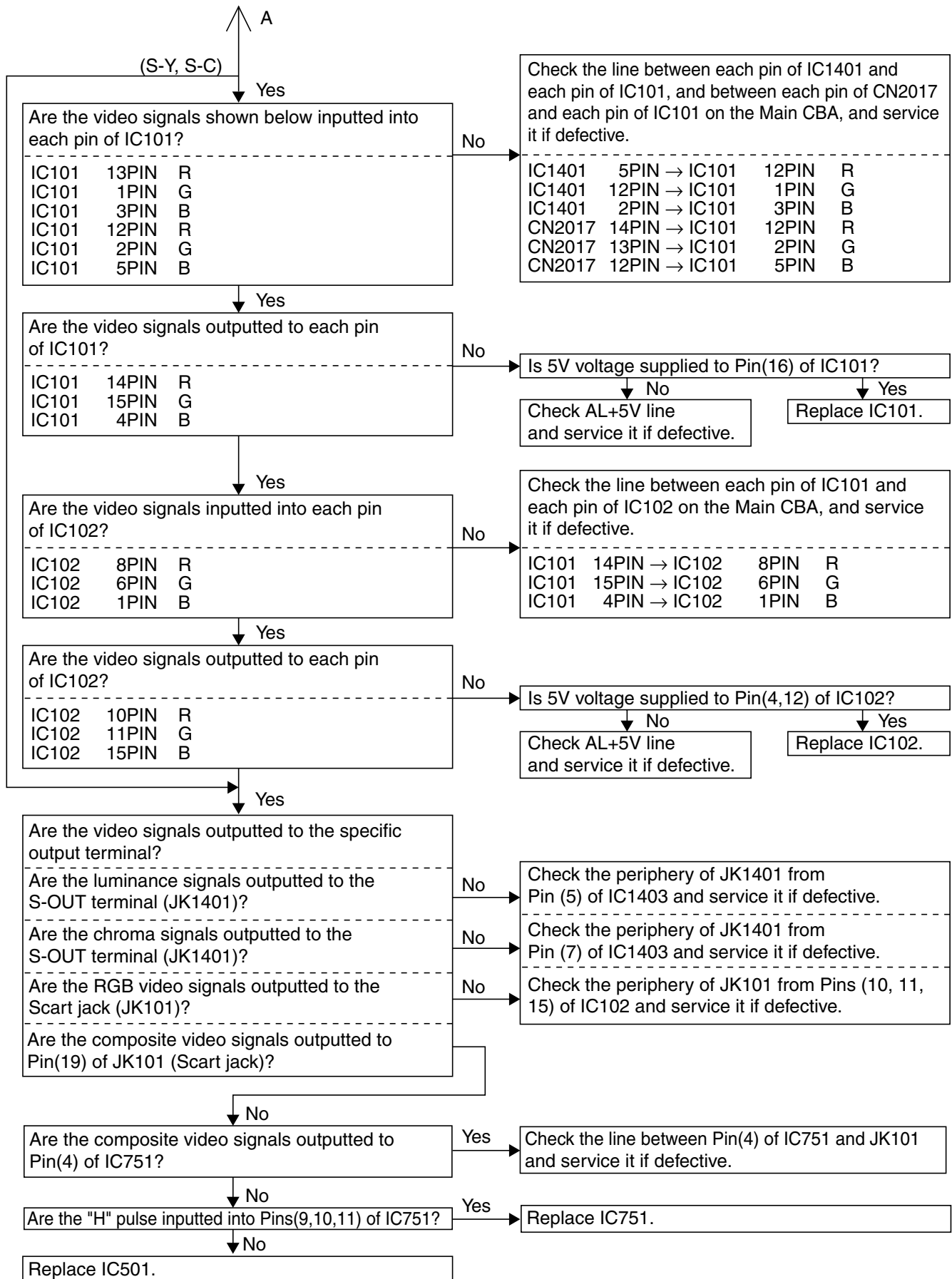
The disc tray cannot be opened and closed. (It can not be done using the unit and the remote control unit.)
The [No Disc] indication.
Both picture and sound do not operate normally.



FLOW CHART NO.5

Picture does not appear normally. [In the RGB/composite video output (JK101)]





FLOW CHART NO.6

Picture does not appear normally. [In the component video output (JK1403)]

Set the disc on the disc tray, and playback.

Are the video signals outputted to each pin of CN1601 on the Main CBA?

CN1601	1PIN	S-Y(I)
CN1601	10PIN	S-C
CN1601	4PIN	Pr/Cr
CN1601	8PIN	S-Y(I/P)
CN1601	6PIN	Pb/Cb

No

Replace the DVD Main CBA or the DVD Mechanism.

Yes

Are the video signals shown above inputted into each pin of IC1403 and IC1401?

IC1403	3PIN	S-Y(I)
IC1403	1PIN	S-C
IC1401	4PIN	Pr/Cr
IC1401	14PIN	S-Y(I/P)
IC1401	15PIN	Cb/Pb

No

Check the line between each pin of CN1601 and each pin of IC1403 and IC1401 on the Main CBA, and service it if defective.

CN1601	1PIN → IC1403	3PIN	S-Y(I)
CN1601	10PIN → IC1403	1PIN	S-C
CN1601	4PIN → IC1401	4PIN	Pr/Cr
CN1601	8PIN → IC1401	14PIN	S-Y(I/P)
CN1601	6PIN → IC1401	15PIN	Cb/Pb

Yes

Are the video signals outputted to each pin of IC1403 and IC1401?

IC1403	6PIN	CVBS
IC1403	5PIN	S-Y
IC1403	7PIN	S-C
IC1401	3PIN	Pr/Cr
IC1401	13PIN	S-Y(I/P)
IC1401	1PIN	Cb/Pb

No

Check DVD-P-ON+5V line and service it if defective.

Replace IC1403.

Is 5V voltage supplied to Pin(4) of IC1403?

No

Are the "H" pulse inputted into Pins(9,10,11) of IC1401?

Are the "L" pulse inputted into Pin(2) of CN1601?

Replace DVD Main CBA.

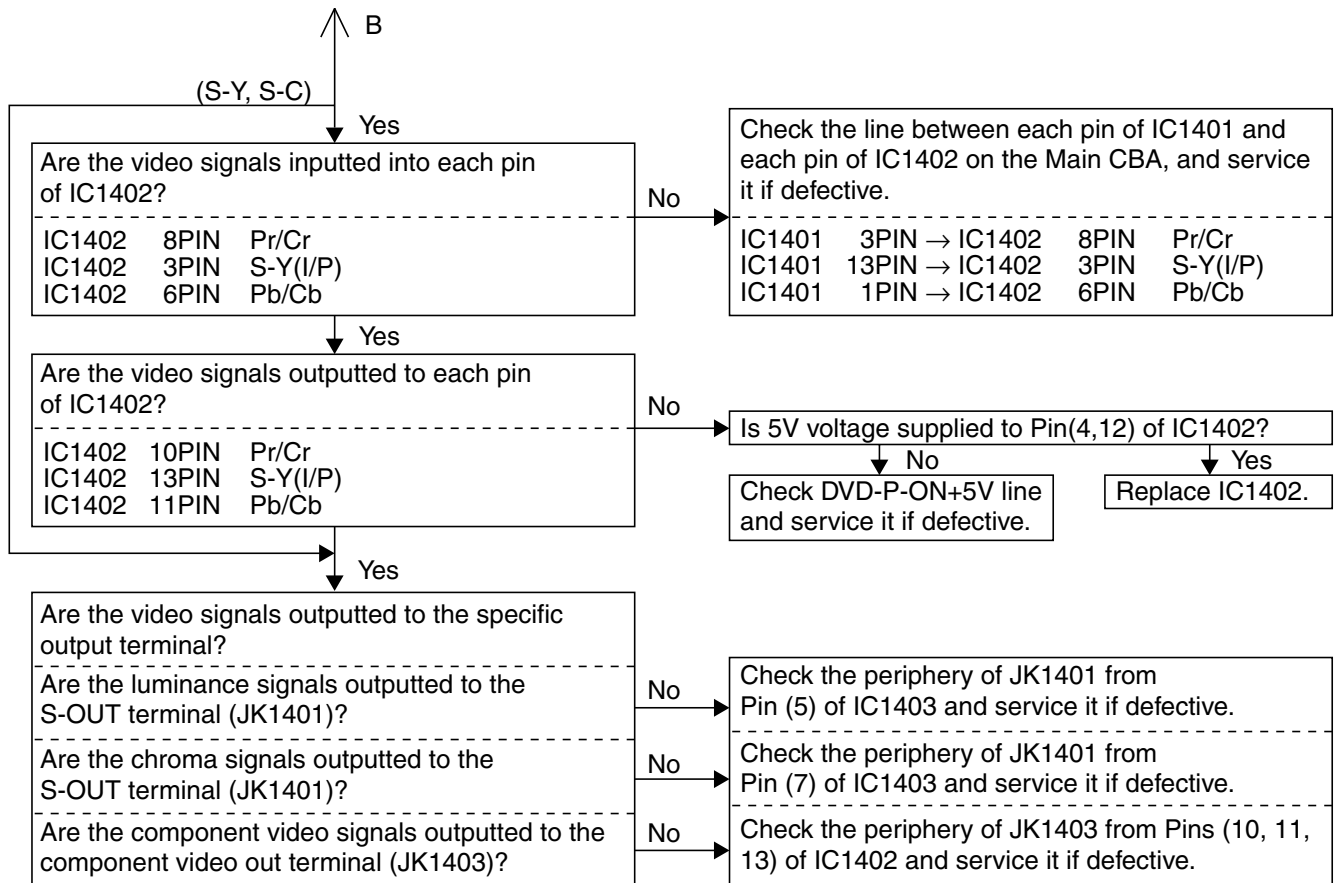
Check the line between Pin(2) of CN1601 and Pins(9,10,11) of IC1401 and service it if defective.

Is +5V voltage supplied to Pin(16) of IC1401?
Is -5V voltage supplied to Pin(7) of IC1401?

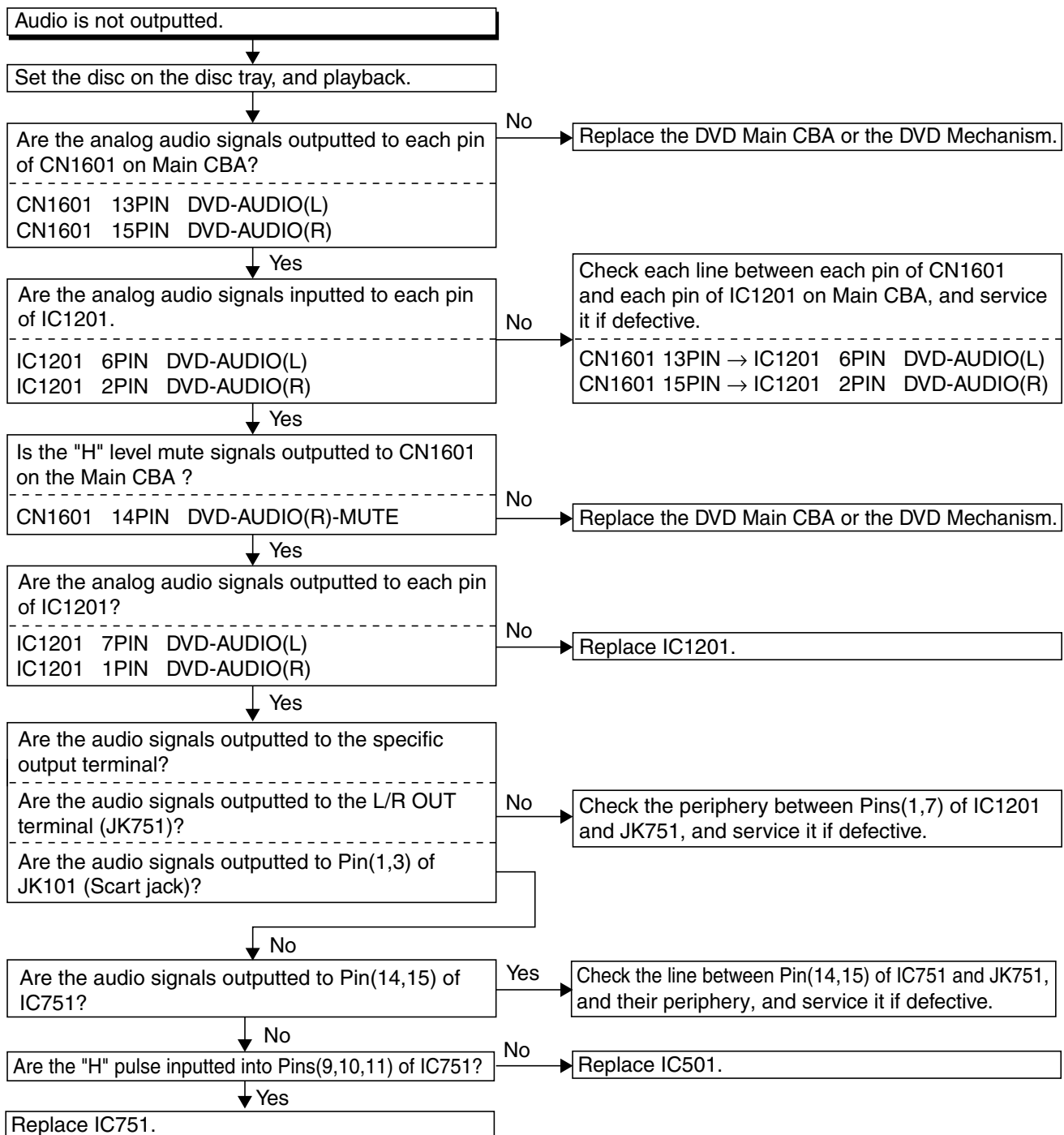
Replace IC1401.

Check the line between DVD-P-ON+5V and AL-5V, and service it if defective.

√ (continued to "B" on next page)

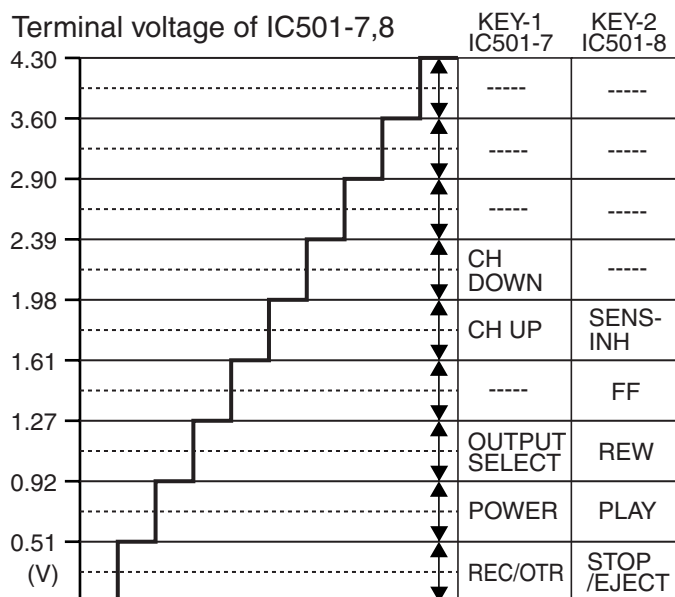
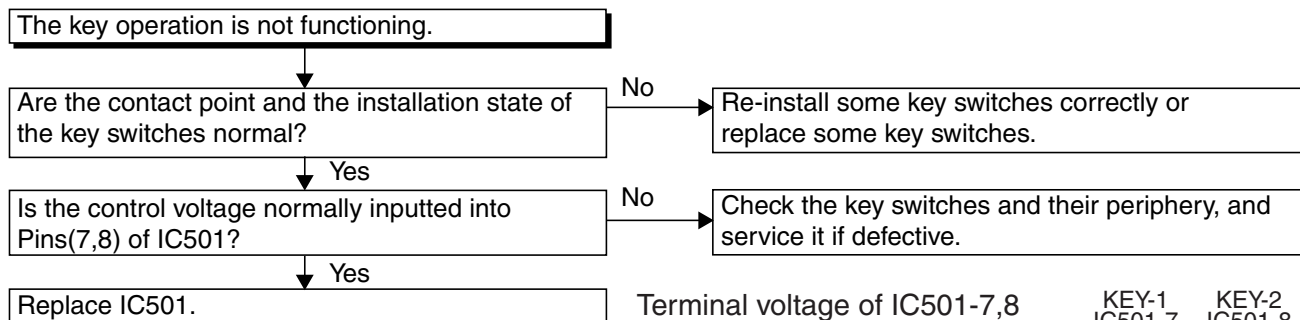


FLOW CHART NO.7

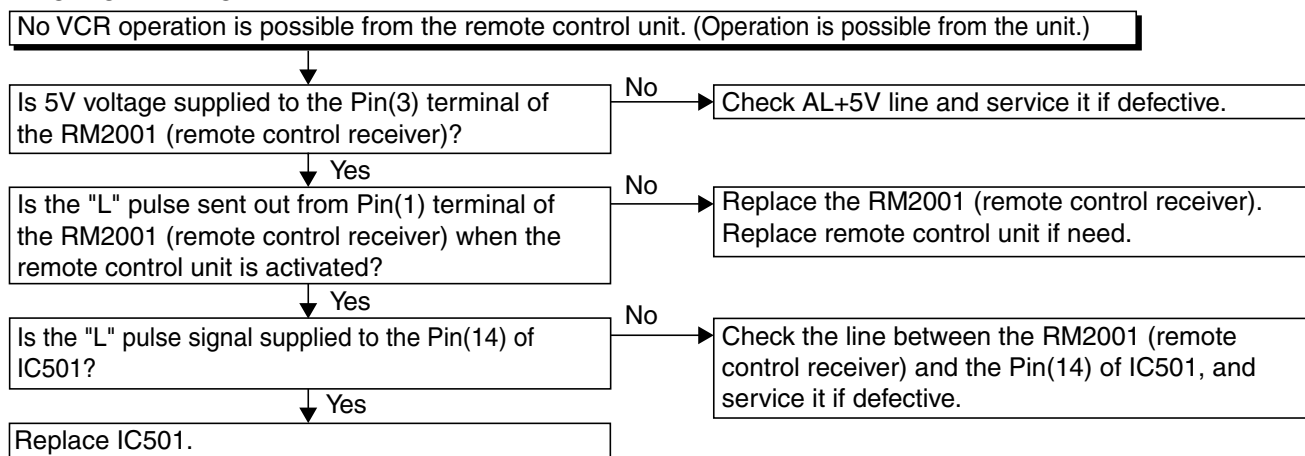


3. VCR Section

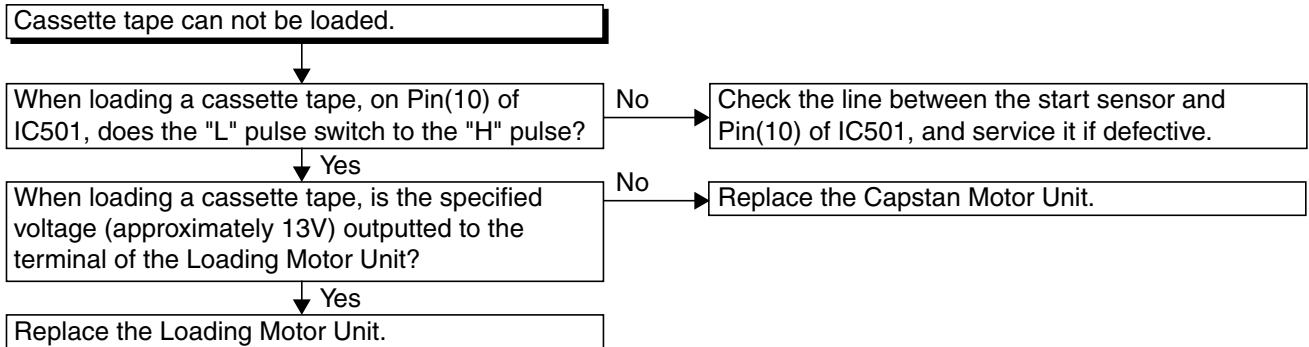
FLOW CHART NO.1



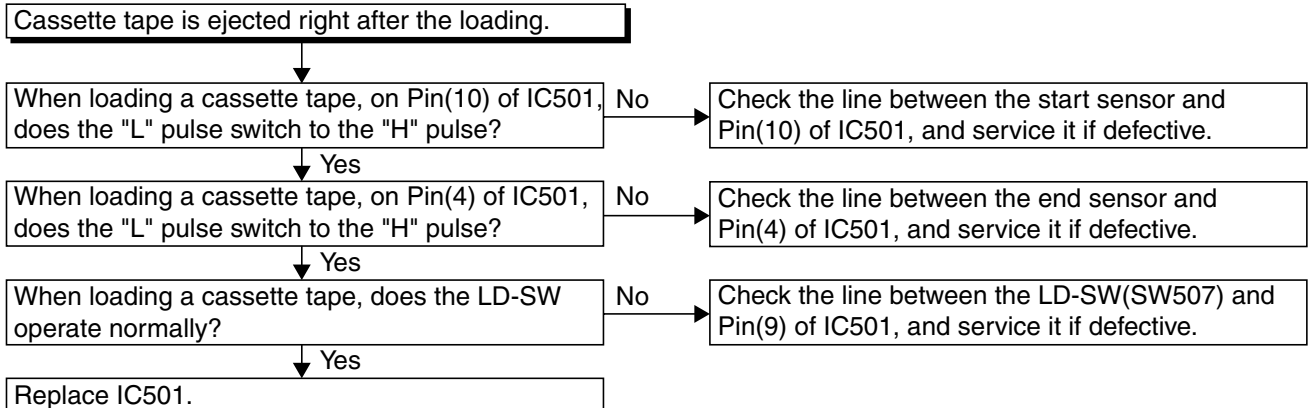
FLOW CHART NO.2



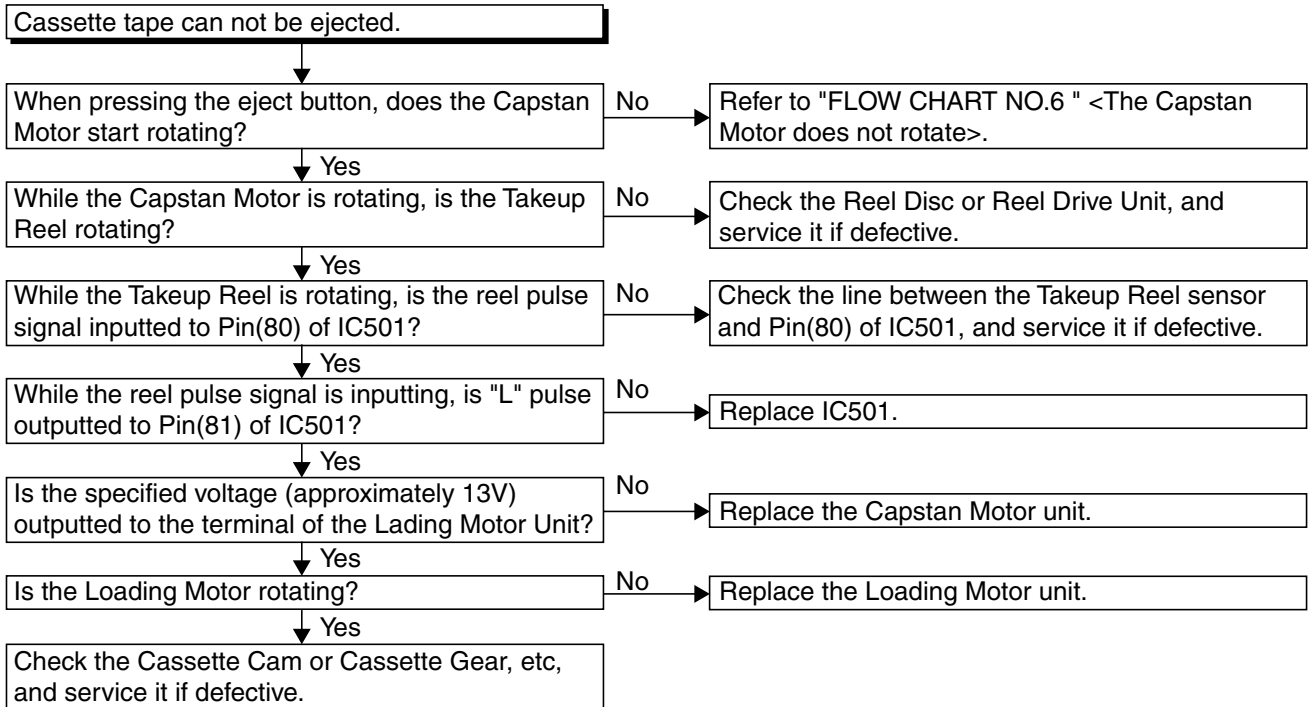
FLOW CHART NO.3



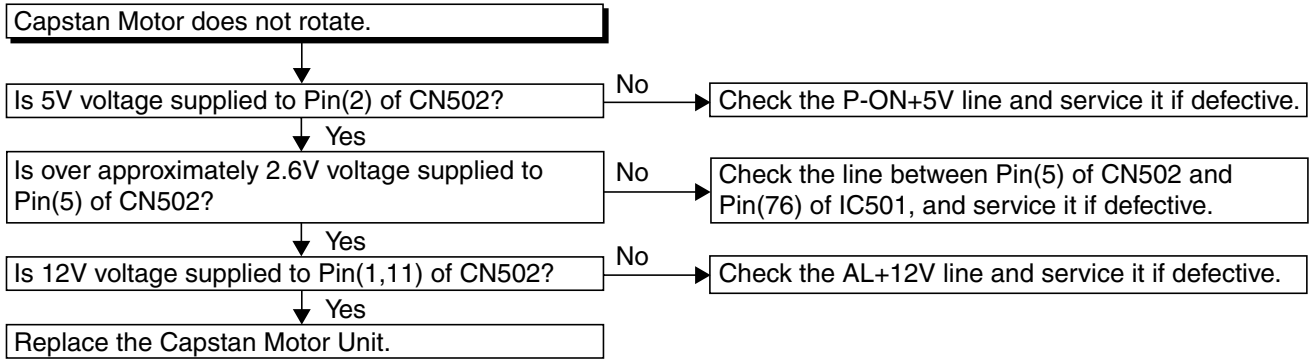
FLOW CHART NO.4



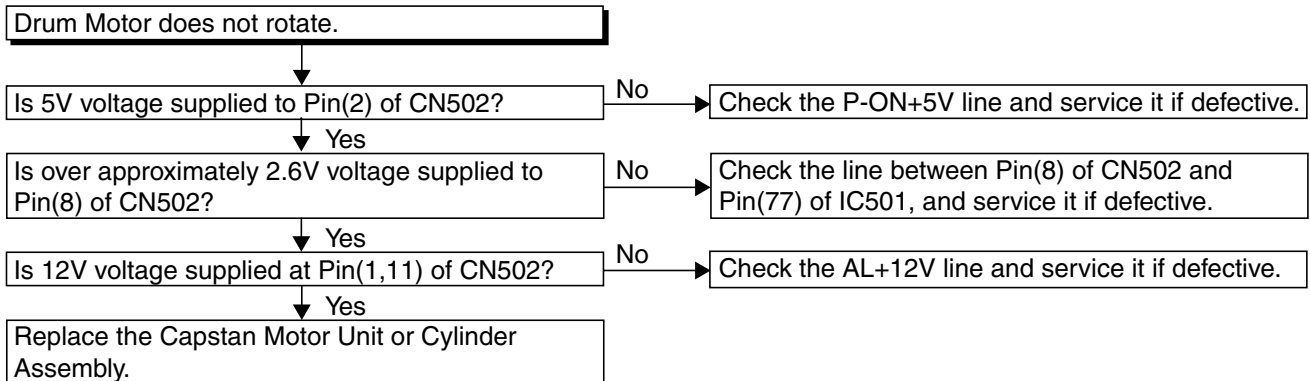
FLOW CHART NO.5



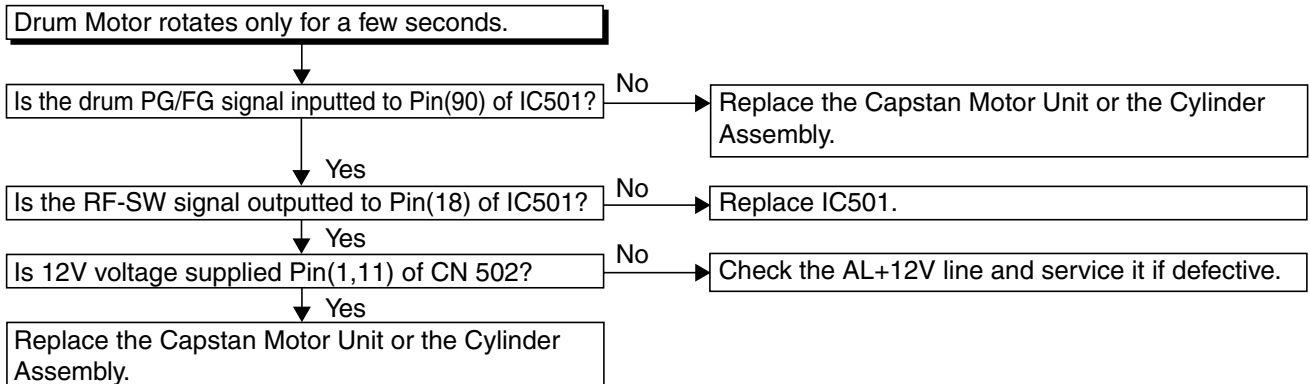
FLOW CHART NO.6



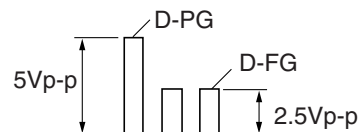
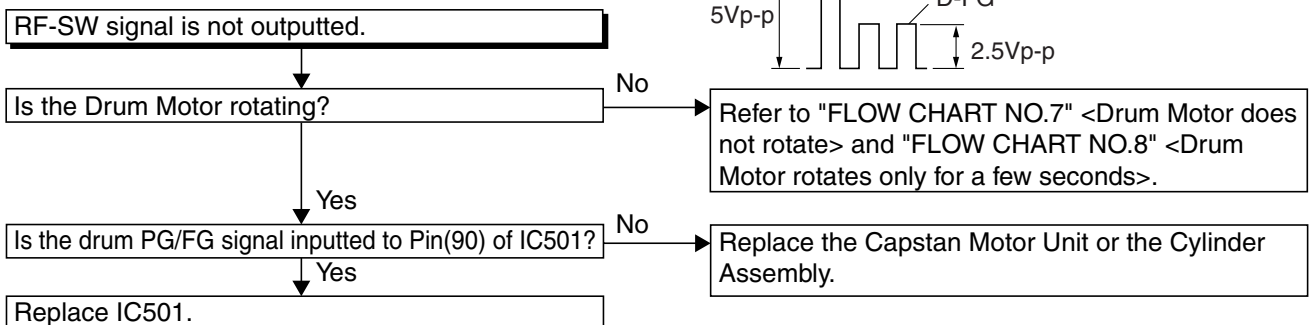
FLOW CHART NO.7



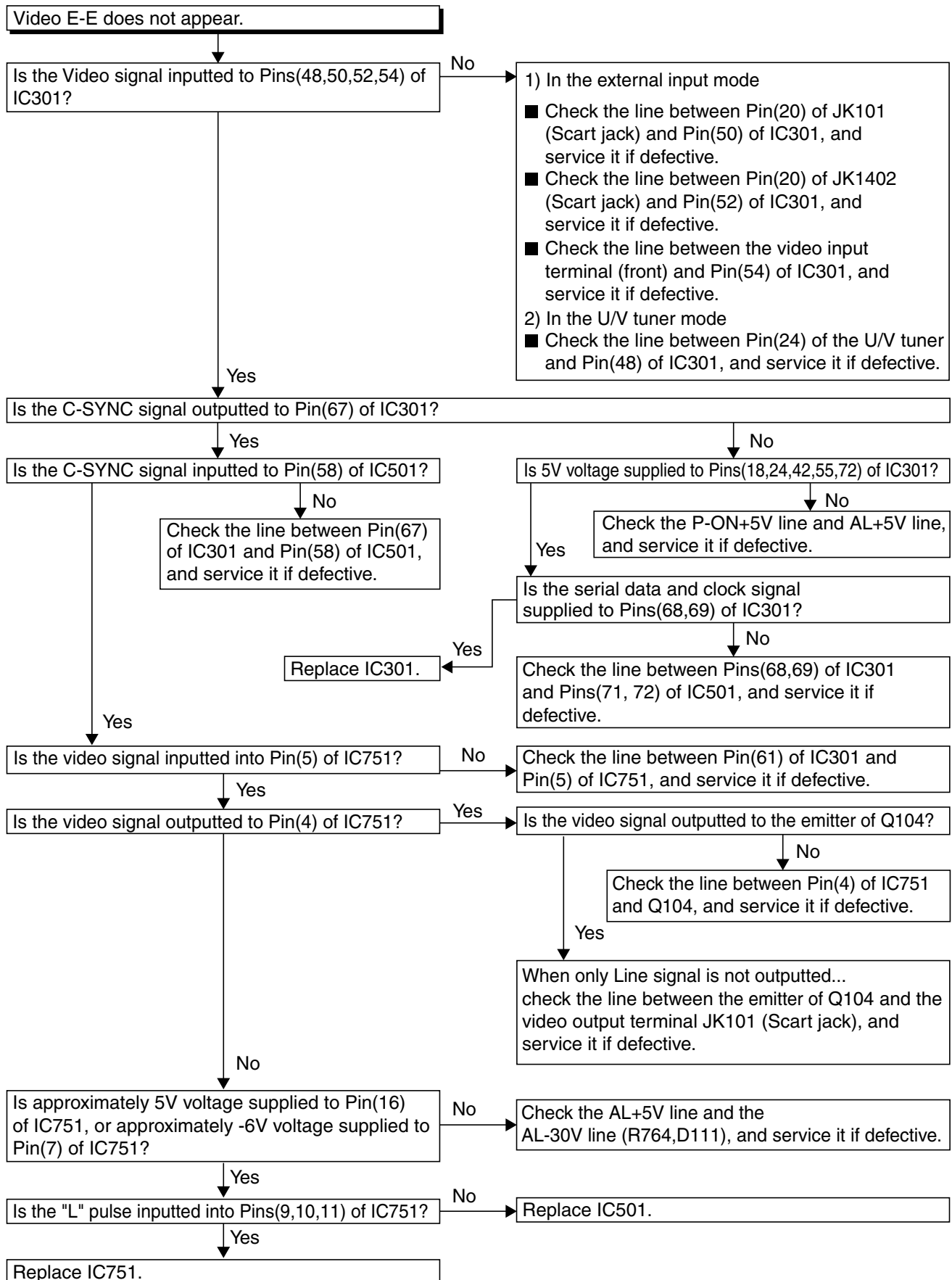
FLOW CHART NO.8



FLOW CHART NO.9



FLOW CHART NO.10



FLOW CHART NO.11

Hi-Fi E-E audio does not operate normally.

Is each signal supplied to each pin of IC451 as below?		
	L-ch	R-ch
Front input terminal	Pin(8)	Pin(54)
Scart jack 1 (JK101)	Pin(6)	Pin(52)
Scart jack 2 (JK1402)	Pin(10)	Pin(56)
Tuner audio signal	Pin(4)	Pin(50)

Yes

Is the 5V voltage supplied to Pins(16,32,35,36,46,55) of IC451, or the 9V voltage supplied to Pin(69) of IC451?

Yes

Is the serial data and the clock signal supplied to Pin(37,38) of IC451?

Yes

Is the "L" pulse inputted into the Pin(53) of IC451?

Yes

Is the audio signal outputted to Pin(65,67,74,76) of IC451?

Yes

Is the audio signal inputted into Pin(2,12) of IC751?

Yes

Is the audio signal outputted to Pin(14,15) of IC751?

Yes

Check the line between Pin(14,15) of IC751 and Pin(1,3) of JK101 (Scart jack), and service it if defective.

Replace IC751.

No
No
No
No

Check the peripheral circuit of the front input terminal and service it if defective.

Check the peripheral circuit of the Scart jack 1 (JK101) and service it if defective.

Check the peripheral circuit of the Scart jack 2 (JK1402) and service it if defective.

Is the SIF signal outputted from Pin(22) of the tuner?

Yes

No

Check the line between Pins(4, 50) of IC451 and Pin(22) of tuner, and service it if defective.

Replace the tuner.

No

Check the circuit of AL+5V, P-ON+5V and AL+9V, and service it if defective.

No

Check the line between Pin(37,38) of IC451 and Pin(71,72) of IC501, and service it if defective.

No

Check the line between Pin(53) of IC451 and Pin(28) of IC501, and service it if defective.

No

Replace IC451.

No

Check the line between Pin(74,76) of IC451 and Pin(2,12) of IC751, and service it if defective.

No

Is approximately 5V voltage supplied to Pin(16) of IC751, or approximately -5V voltage supplied to Pin(7) of IC751?

No

Check the AL+5V line and the AL-30V line (R764, D111), and service it if defective.

Yes

Yes

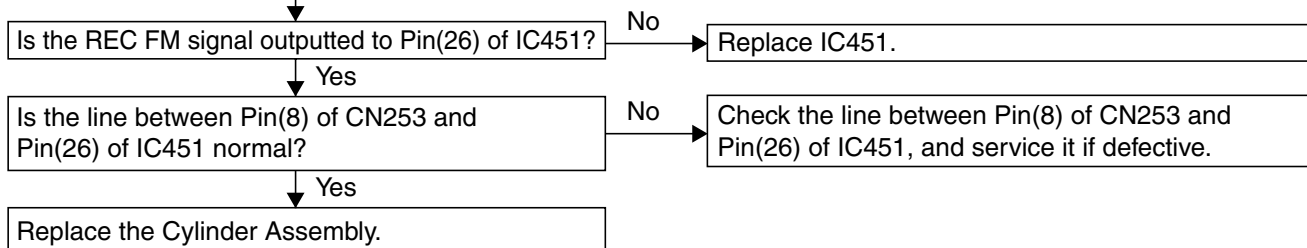
Is the "L" pulse inputted into the Pins(9,10,11) of IC751?

No

Replace IC501.

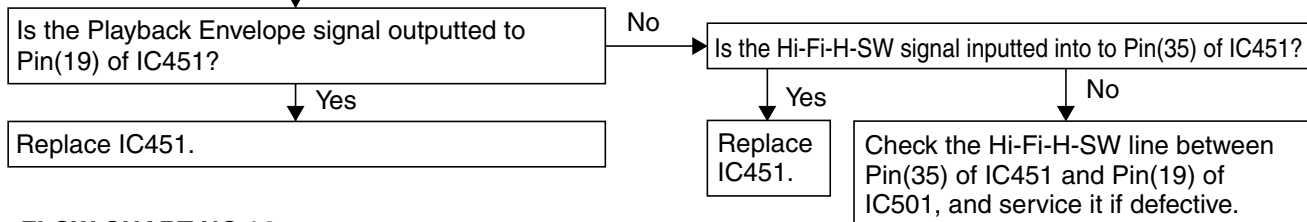
FLOW CHART NO.12

Hi-Fi audio can not be recorded normally. (E-E mode is normal.)



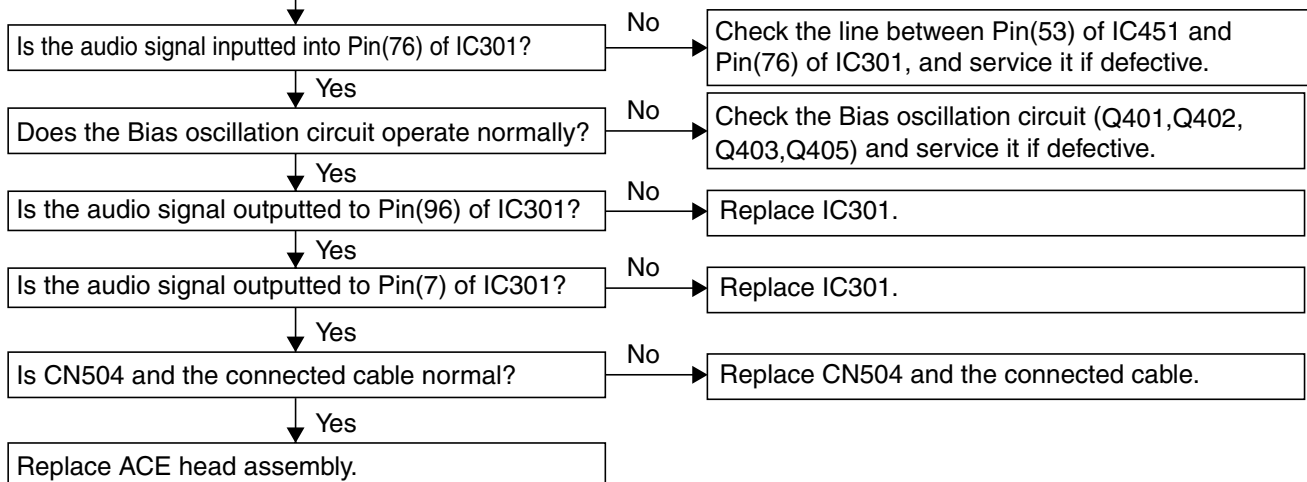
FLOW CHART NO.13

Hi-Fi audio can not be played back normally. (Hi-Fi E-E mode is normal.)



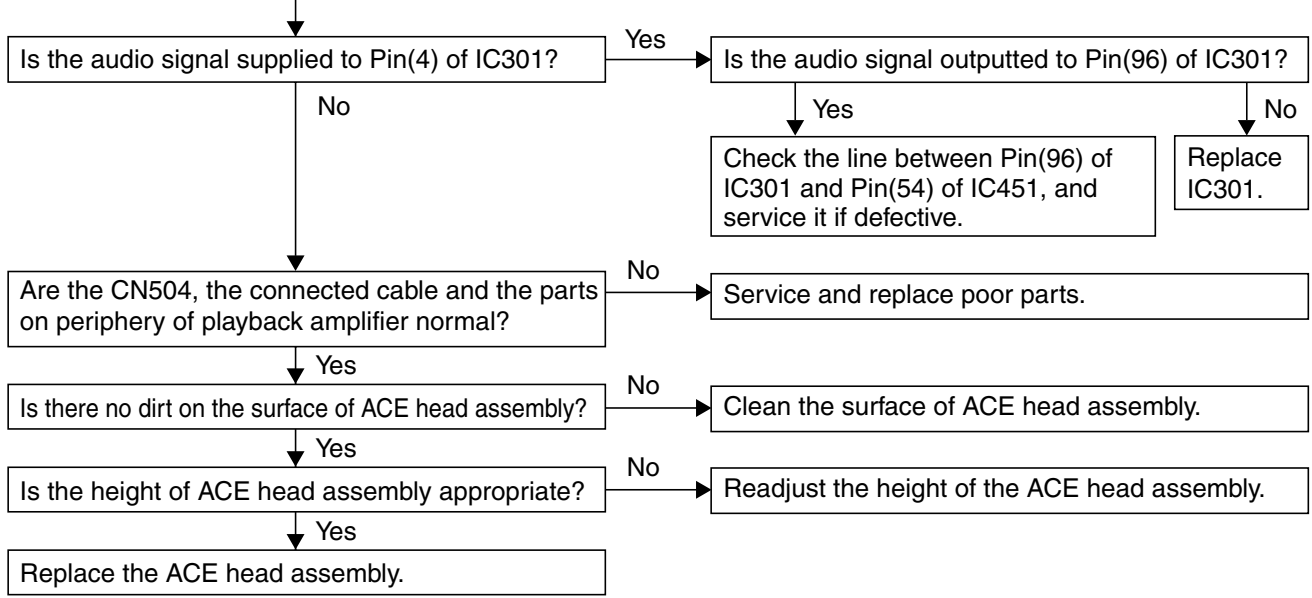
FLOW CHART NO.14

Hi-Fi audio can not be recorded normally in the linear audio mode. (E-E mode is normal.)



FLOW CHART NO.15

Hi-Fi audio can not be played normally in the linear audio mode. (E-E mode is normal.)



FUNCTION INDICATOR SYMBOLS

Note:

If a mechanical malfunction occurs, the power is turned off. When the power comes on again after that by pressing [OPERATE] button, an error message is displayed on the TV screen for 5 seconds.

MODE	INDICATOR ACTIVE
When reel and capstan mechanism is not functioning correctly	"▲R" is displayed on a TV screen. (Refer to Fig. 1.)
When tape loading mechanism is not functioning correctly	"▲T" is displayed on a TV screen. (Refer to Fig. 2.)
When cassette loading mechanism is not functioning correctly	"▲C" is displayed on a TV screen. (Refer to Fig. 3.)
When the drum is not working properly	"▲D" is displayed on a TV screen. (Refer to Fig. 4.)
P-ON Power safety detection	"▲P" is displayed on a TV screen. (Refer to Fig. 5.)

TV screen

When reel and capstan mechanism is not functioning correctly

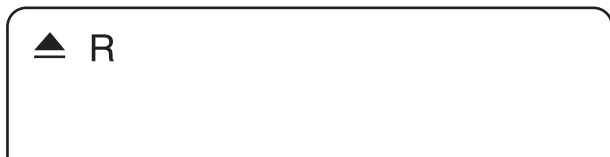


Fig. 1

When the drum is not working properly



Fig. 4

When tape loading mechanism is not functioning correctly



Fig. 2

P-ON Power safety detection



Fig. 5

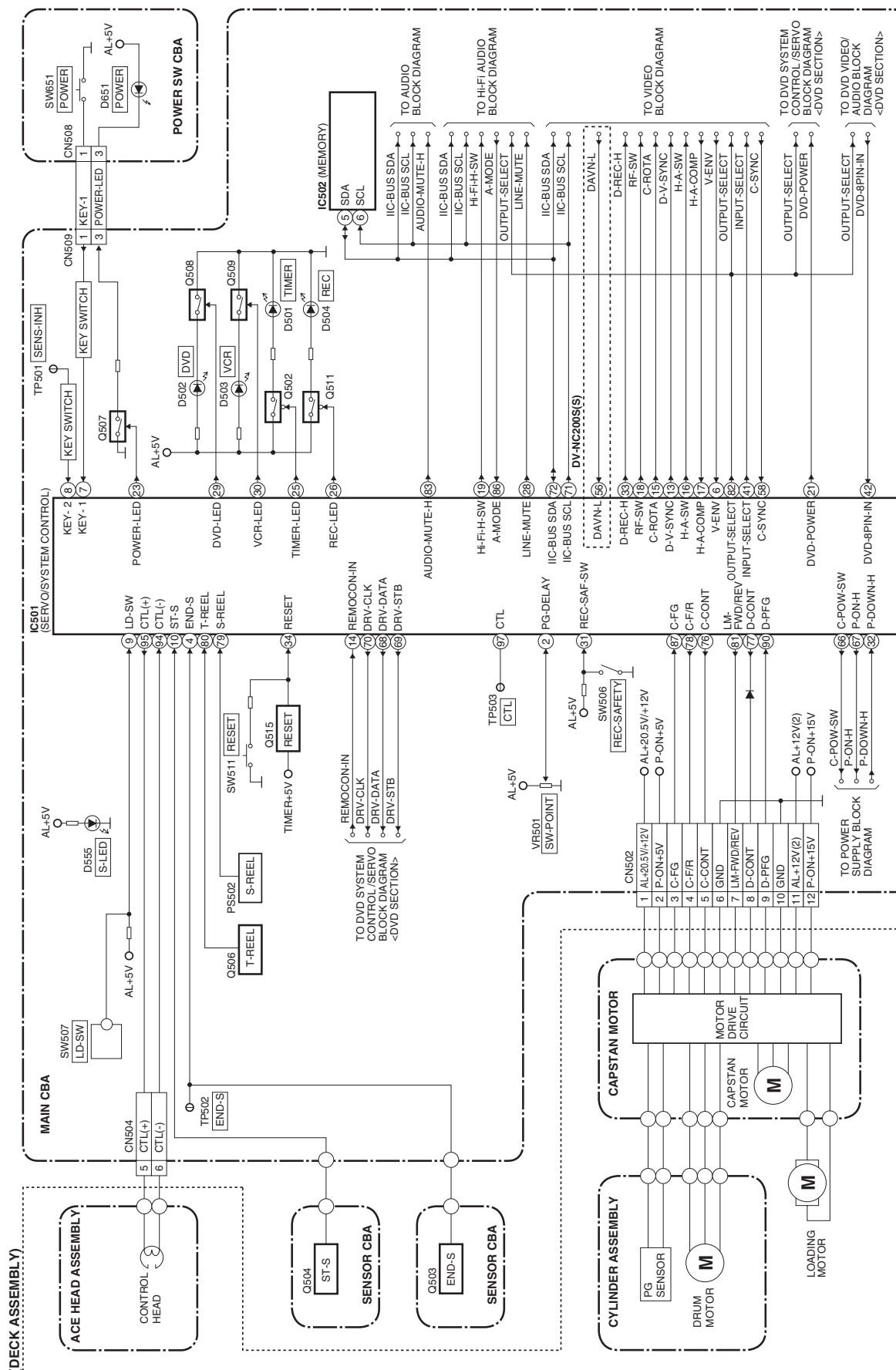
When cassette loading mechanism is not functioning correctly



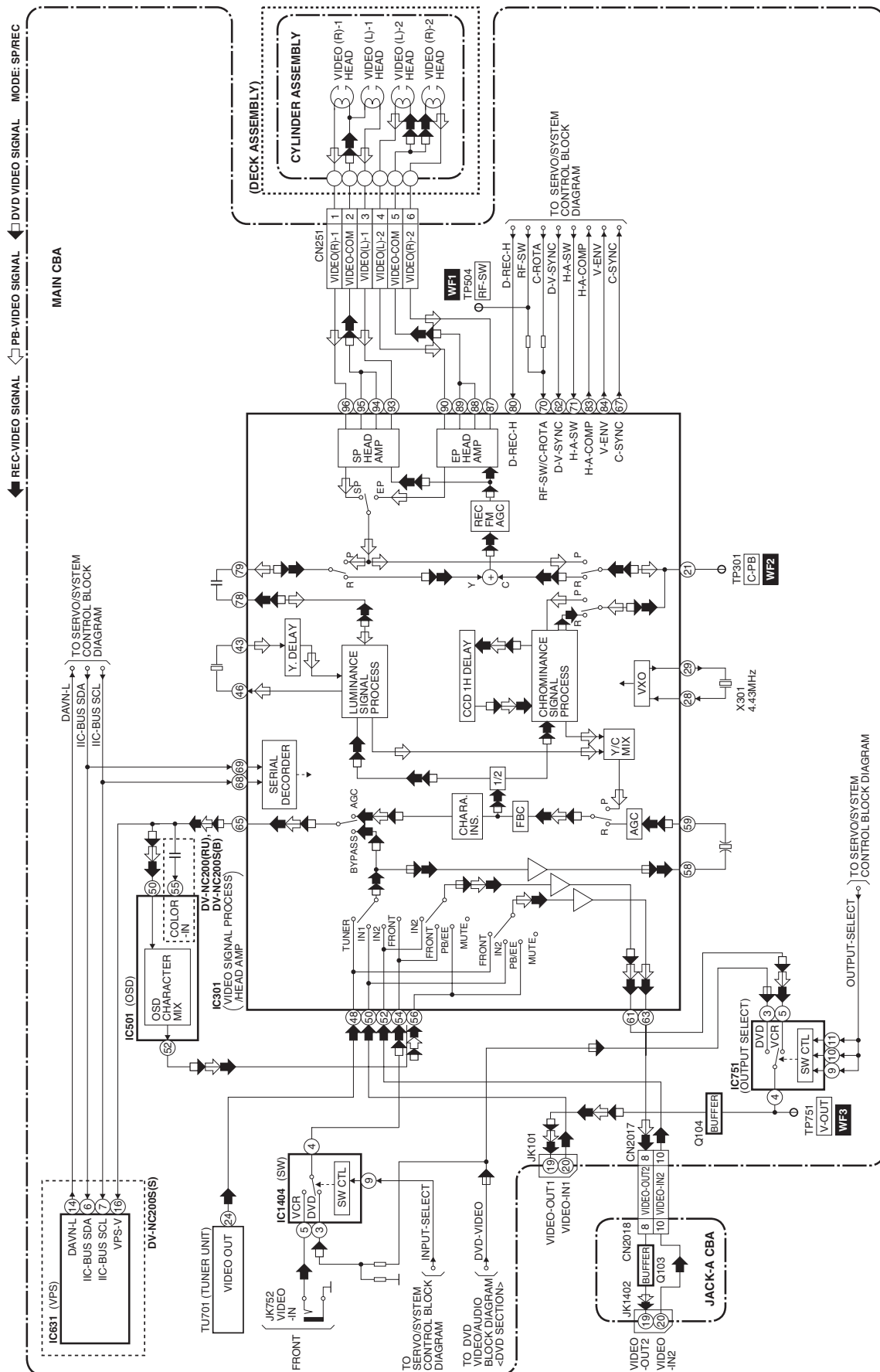
Fig. 3

BLOCK DIAGRAMS <VCR SECTION>

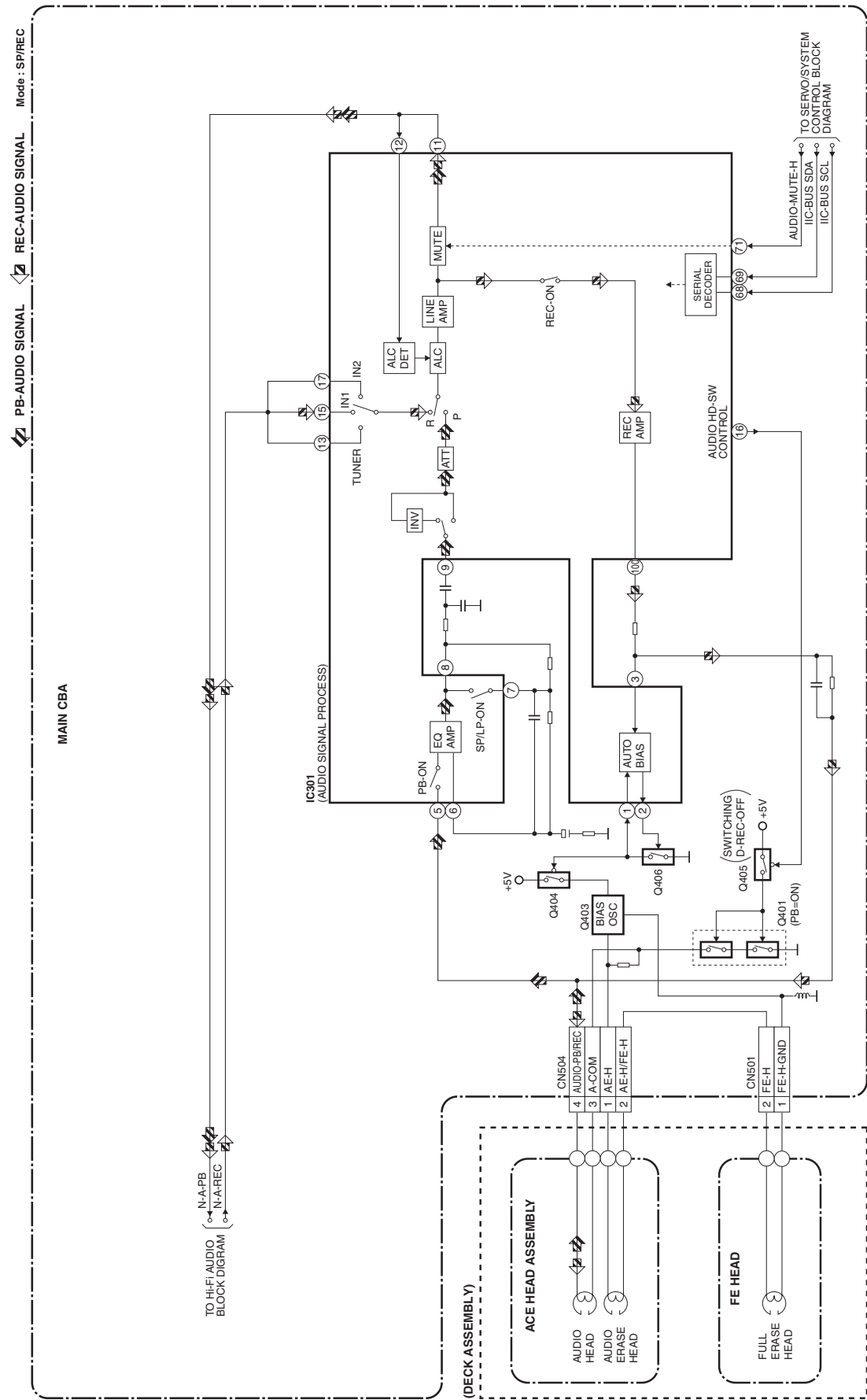
Servo / System Control Block Diagram



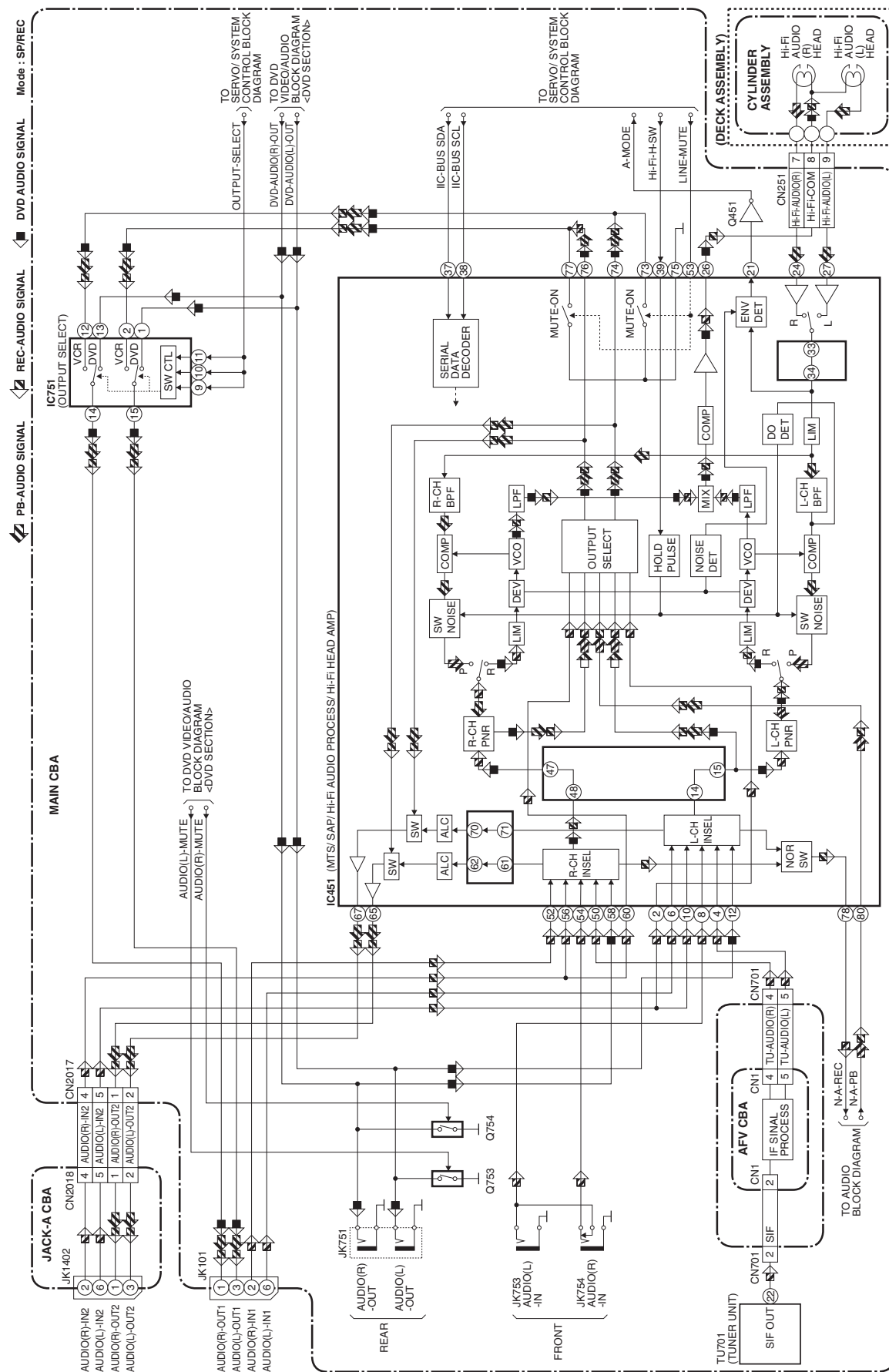
Video Block Diagram



Audio Block Diagram



Hi-Fi Audio Block Diagram



Power Supply Block Diagram

CAUTION !

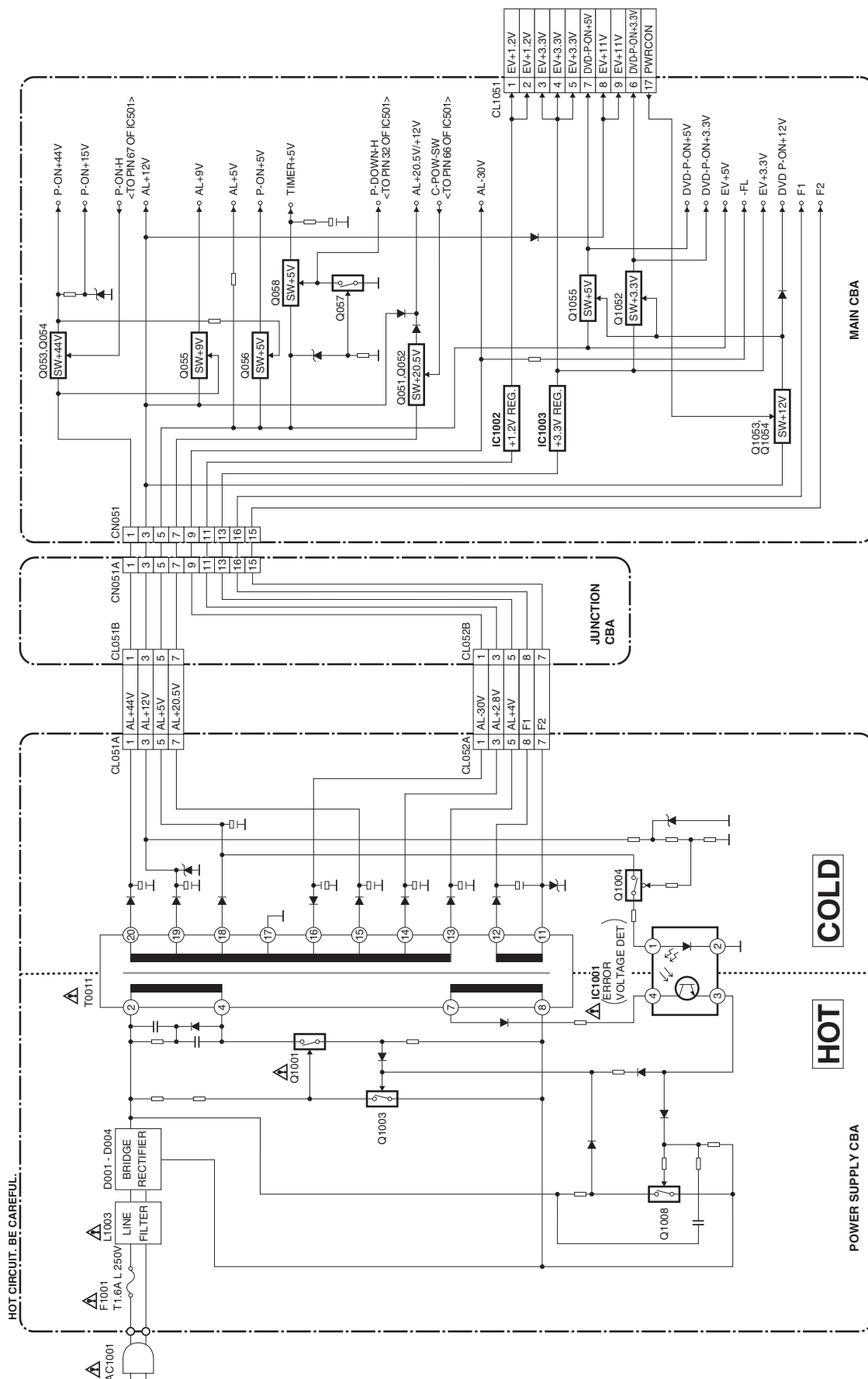
For continued protection against fire hazard, replace only with the same type fuse.

NOTE:

The voltage for parts in hot circuit is measured using not GND as a common terminal.

CAUTION !

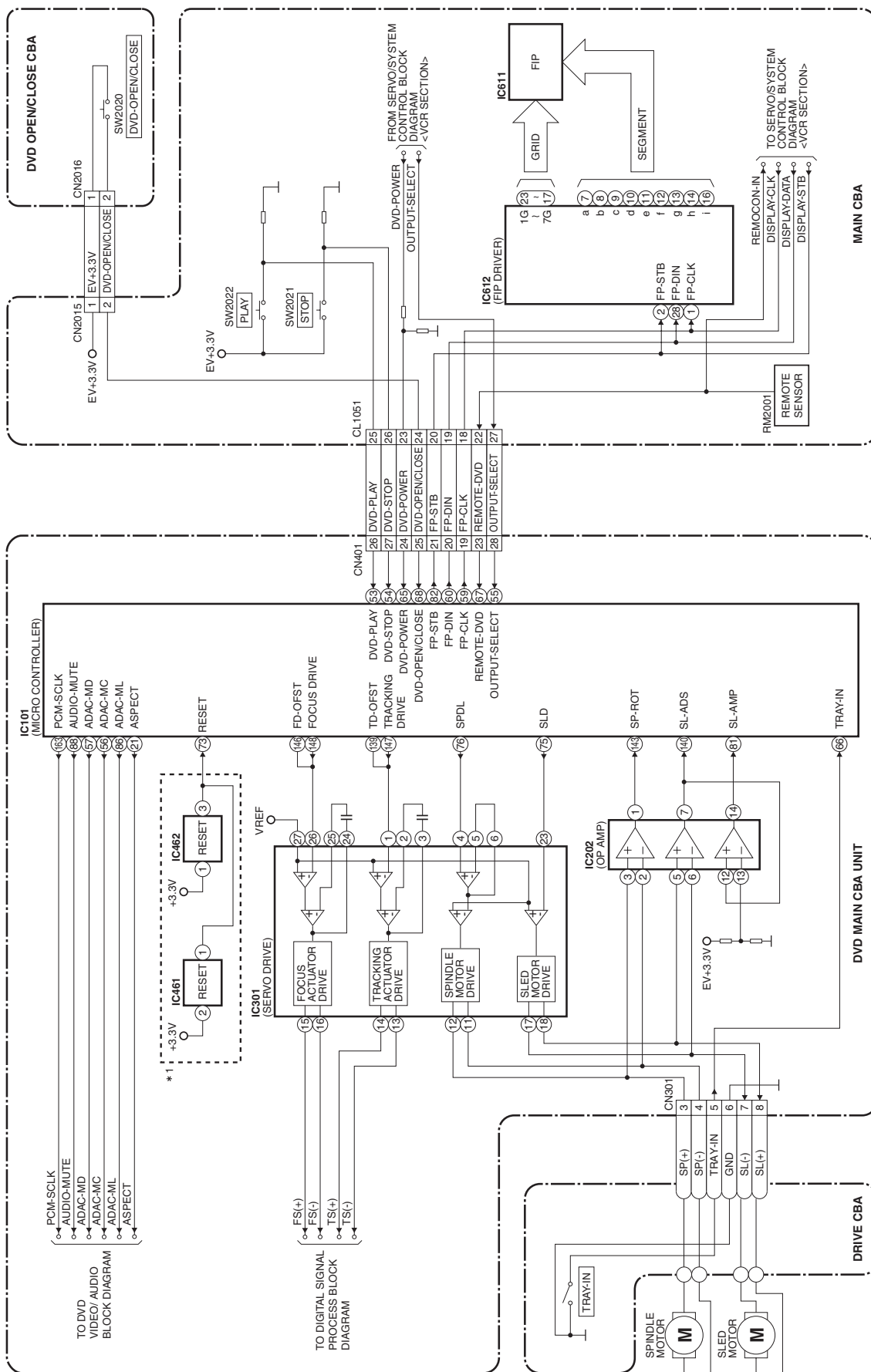
Fixed voltage (or Auto voltage selectable) power supply circuit is used in this unit.
If Main Fuse (F1001) is blown, check to see that all components in the power supply circuit are not defective before you connect the AC plug to the AC power supply.
Otherwise it may cause some components in the power supply circuit to fail.



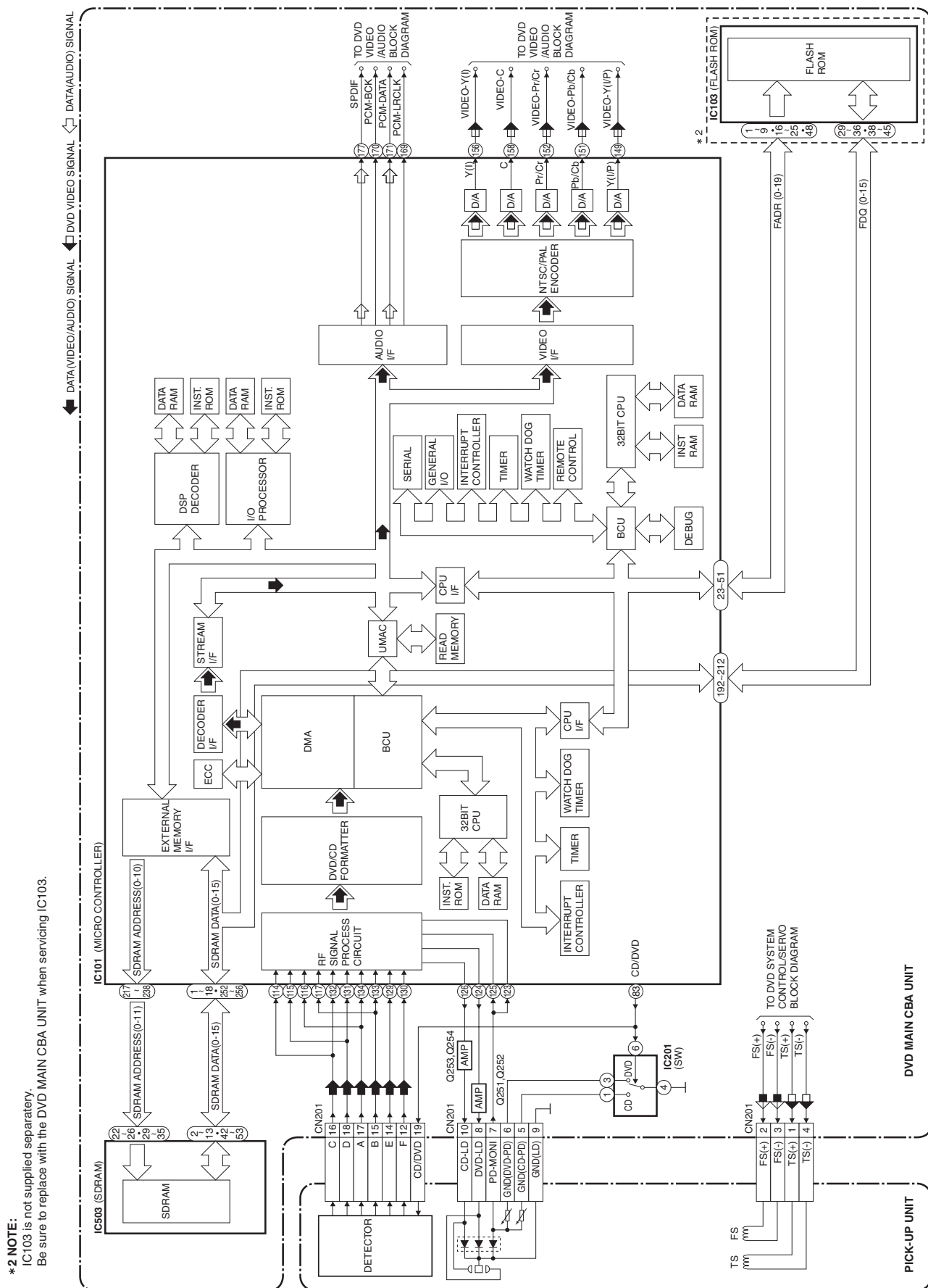
BLOCK DIAGRAMS <DVD SECTION>

DVD System Control / Servo Block Diagram

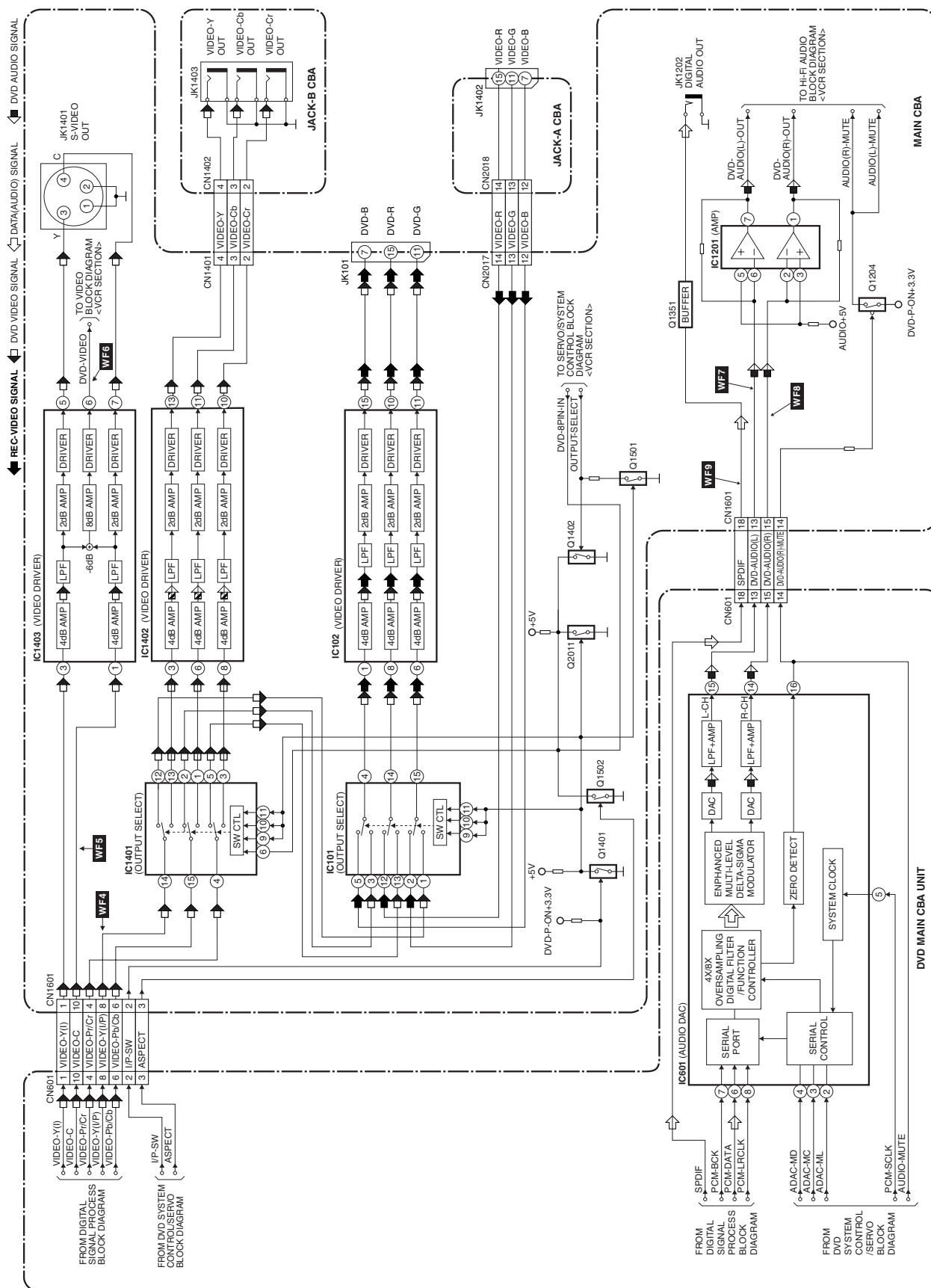
*1 NOTE:
Either IC461 or IC462 is used for DVD MAIN CBA UNIT.



Digital Signal Process Block Diagram



DVD Video / Audio Block Diagram



SCHEMATIC DIAGRAMS / CBA'S AND TEST POINTS

Standard Notes

WARNING

Many electrical and mechanical parts in this chassis have special characteristics. These characteristics often pass unnoticed and the protection afforded by them cannot necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts that have these special safety characteristics are identified in this manual and its supplements; electrical components having such features are identified by the mark " \triangle " in the schematic diagram and the parts list. Before replacing any of these components, read the parts list in this manual carefully. The use of substitute replacement parts that do not have the same safety characteristics as specified in the parts list may create shock, fire, or other hazards.

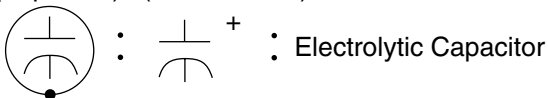
Capacitor Temperature Markings

Mark	Capacity change rate	Standard temperature	Temperature range
(B)	$\pm 10\%$	20°C	-25~+85°C
(F)	+30 - 80%	20°C	-25~+85°C
(SR)	$\pm 15\%$	20°C	-25~+85°C
(Z)	+30 - 80%	20°C	-10~+70°C

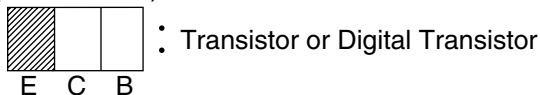
Capacitors and transistors are represented by the following symbols.

CBA Symbols

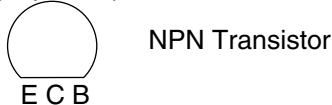
(Top View) (Bottom View)



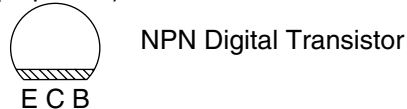
(Bottom View)



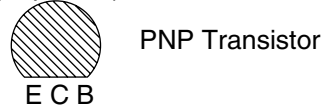
(Top View)



(Top View)



(Top View)



(Top View)

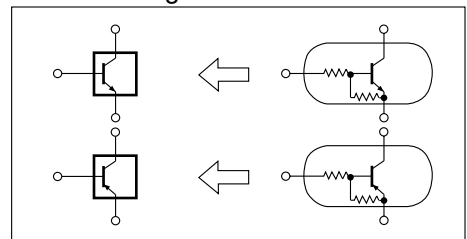


Notes:

1. Do not use the part number shown on these drawings for ordering. The correct part number is shown in the parts list, and may be slightly different or amended since these drawings were prepared.
2. All resistance values are indicated in ohms ($K=10^3$, $M=10^6$).
3. Resistor wattages are 1/4W or 1/6W unless otherwise specified.
4. All capacitance values are indicated in μF ($P=10^{-6} \mu F$).
5. All voltages are DC voltages unless otherwise specified.
6. Electrical parts such as capacitors, connectors, diodes, IC's, transistors, resistors, switches, and fuses are identified by four digits. The first two digits are not shown for each component. In each block of the diagram, there is a note such as shown below to indicate these abbreviated two digits.

Schematic Diagram Symbols

Digital Transistor



LIST OF CAUTION, NOTES, AND SYMBOLS USED IN THE SCHEMATIC DIAGRAMS ON THE FOLLOWING PAGES:

1. CAUTION:

FOR CONTINUED PROTECTION AGAINST FIRE HAZARD, REPLACE ONLY WITH THE SAME TYPE FUSE.

2. CAUTION:

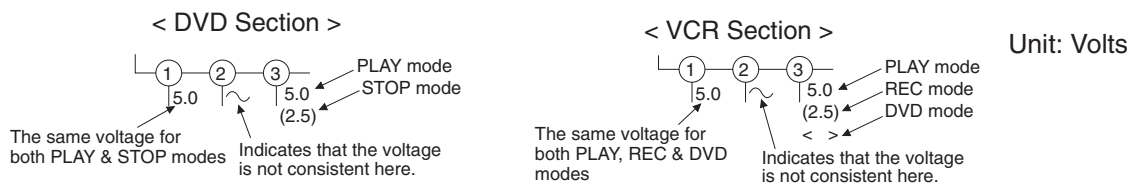
Fixed Voltage (or Auto voltage selectable) power supply circuit is used in this unit.

If Main Fuse (F1001) is blown, first check to see that all components in the power supply circuit are not defective before you connect the AC plug to the AC power supply. Otherwise it may cause some components in the power supply circuit to fail.

3. Note:

- (1) Do not use the part number shown on the drawings for ordering. The correct part number is shown in the parts list, and may be slightly different or amended since the drawings were prepared.
- (2) To maintain original function and reliability of repaired units, use only original replacement parts which are listed with their part numbers in the parts list section of the service manual.

4. Voltage indications for PLAY modes on the schematics are as shown below:



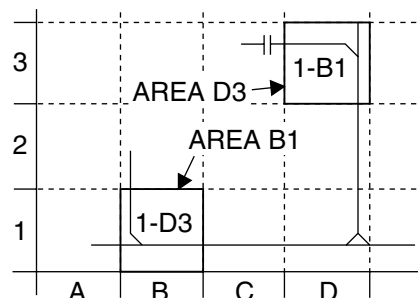
5. How to read converged lines

1-D3

↑ Distinction Area
 ↑ Line Number
 (1 to 3 digits)

Examples:

1. "1-D3" means that line number "1" goes to the line number "1" of the area "D3".
2. "1-B1" means that line number "1" goes to the line number "1" of the area "B1".



6. Test Point Information

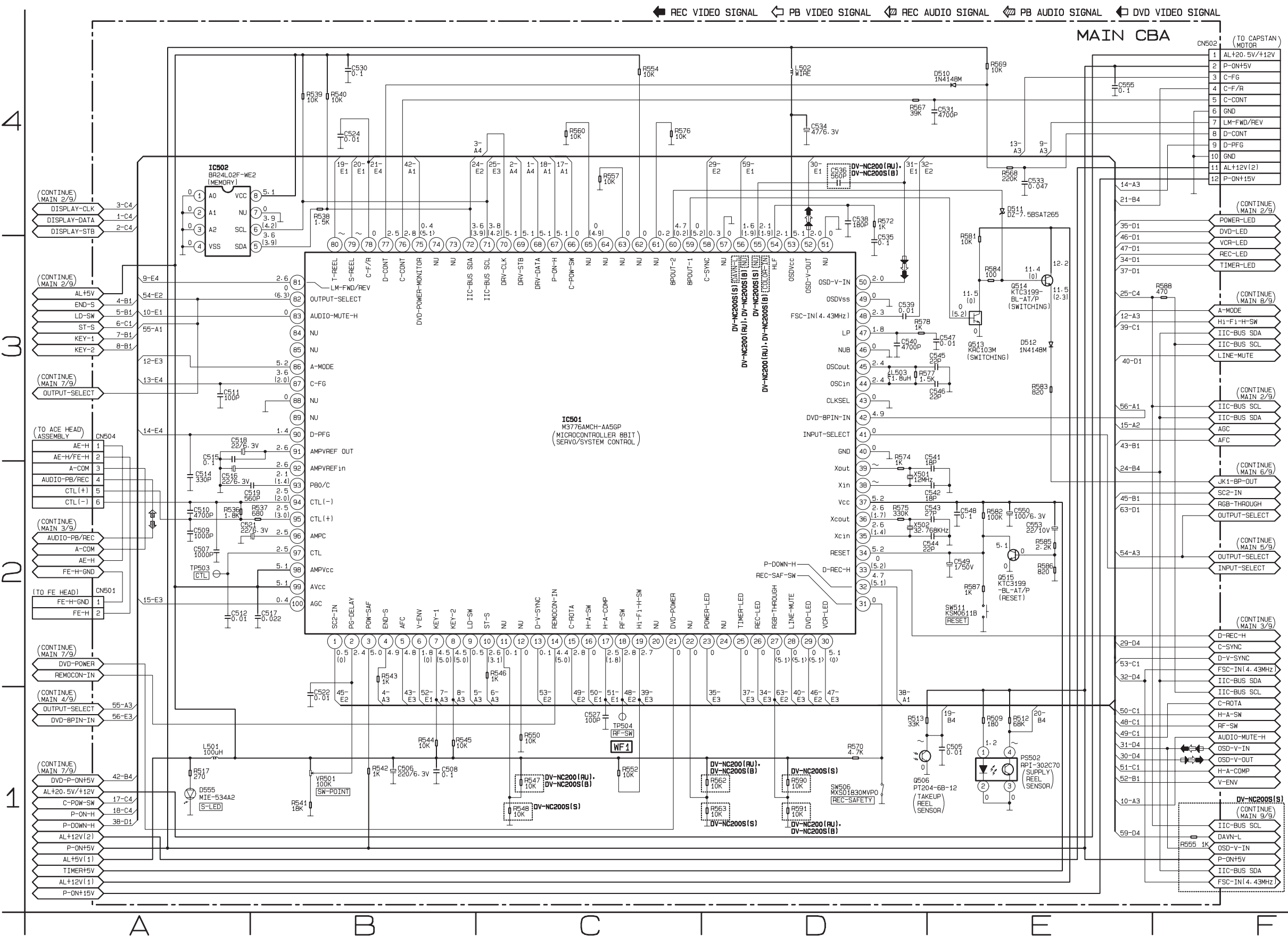
⊙ : Indicates a test point with a jumper wire across a hole in the PCB.

□→ : Used to indicate a test point with a component lead on foil side.

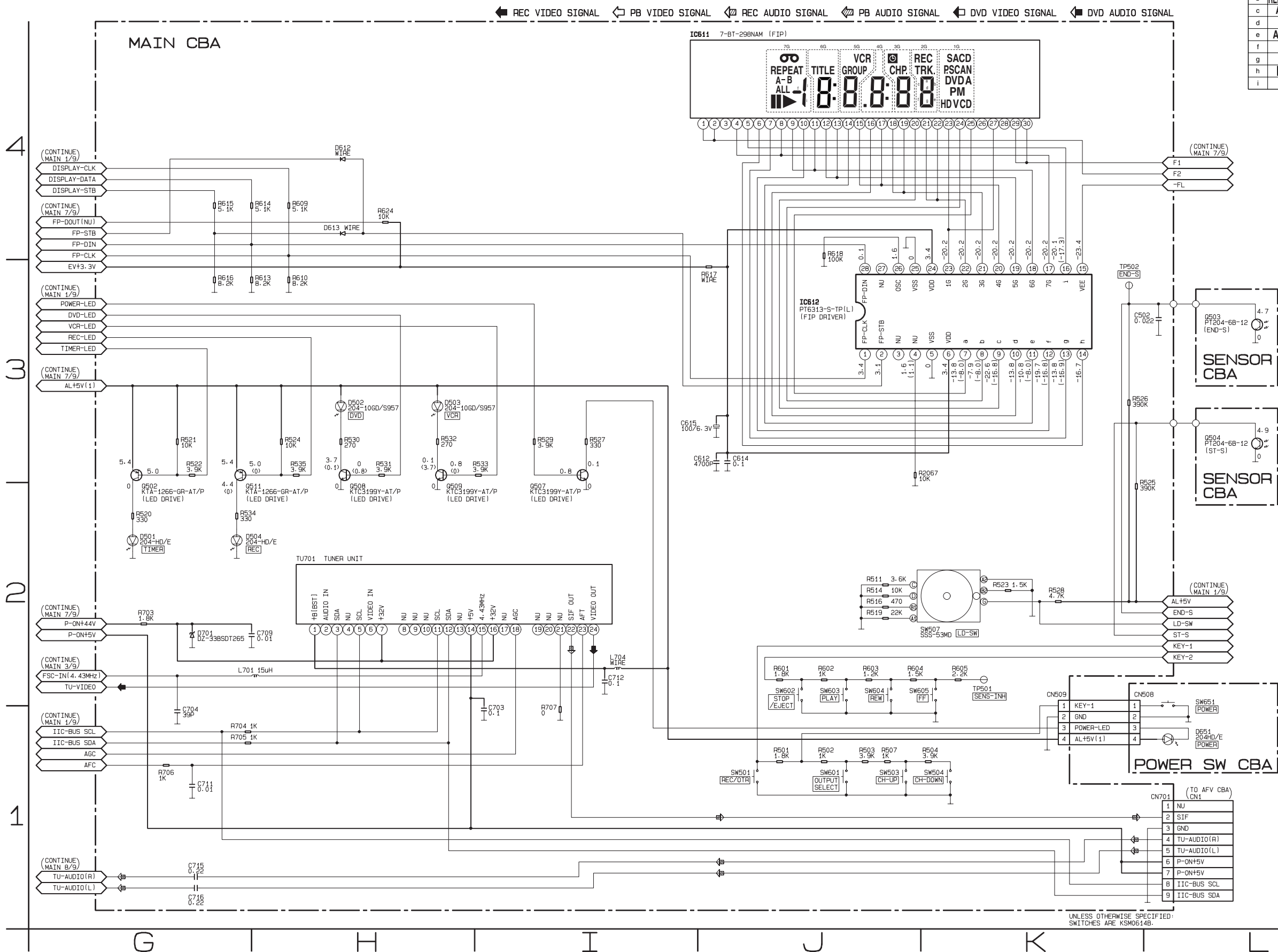
⊗ : Used to indicate a test point with no test pin.

● : Used to indicate a test point with a test pin.

Main 1/9 Schematic Diagram < VCR Section >



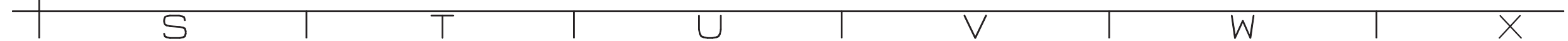
Main 2/9, Sensor & Power SW Schematic Diagram < VCR Section >



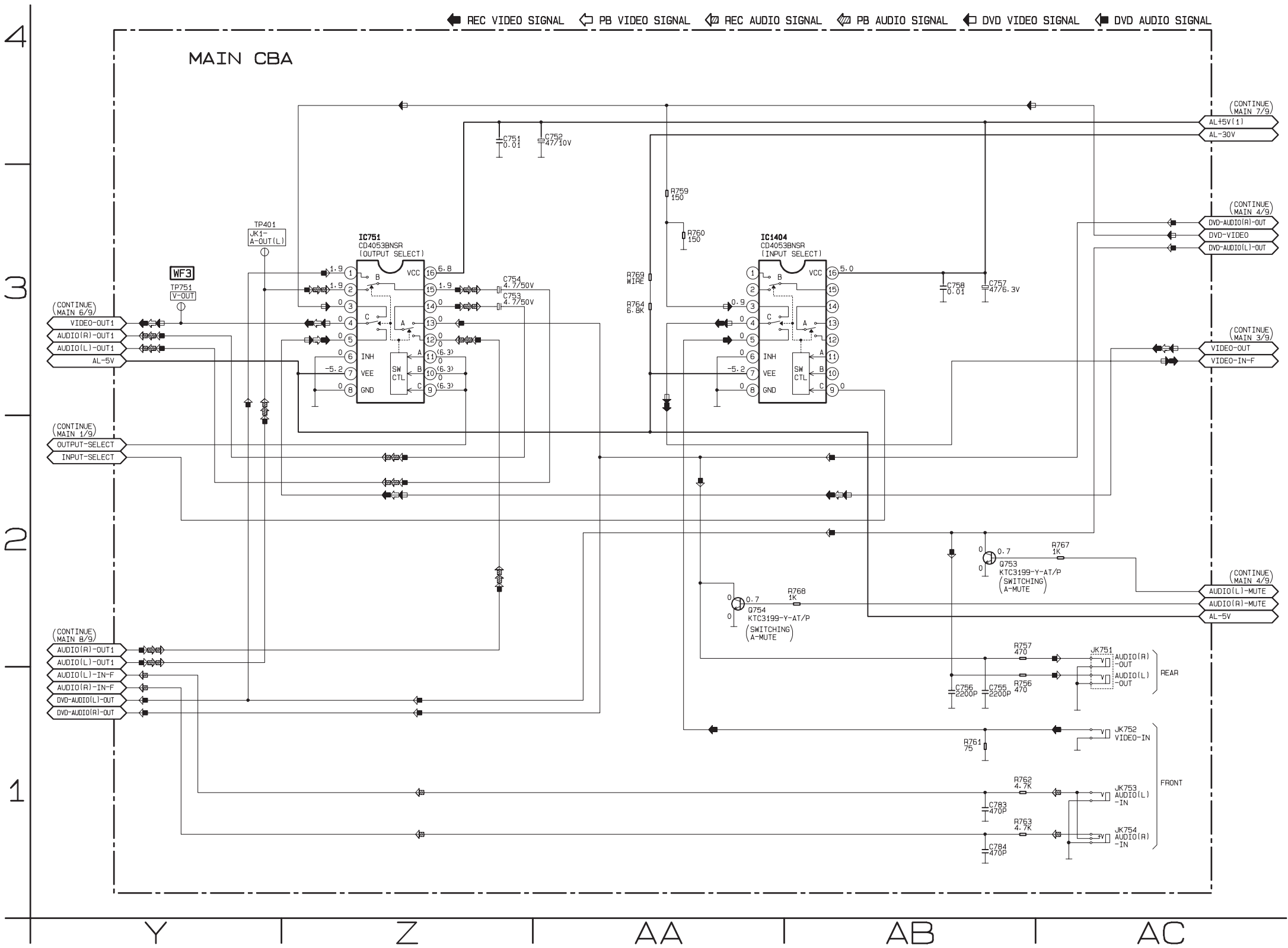
IC611 MATRIX CHART

	7G	6G	5G	4G	3G	2G	1G
a	REPEAT	a	a	a	a	a	SACD
b	A-	b	b	b	b	b	PSCAN
c	B	c	c	c	c	c	DVD
d	ALL	d	d	d	d	d	A
e	▶	e	e	e	e	e	P
f	■	f	f	f	f	f	M
g	■	g	g	g	g	g	HD
h	■	h	h	h	h	h	V
i	■	i	i	i	i	i	CD

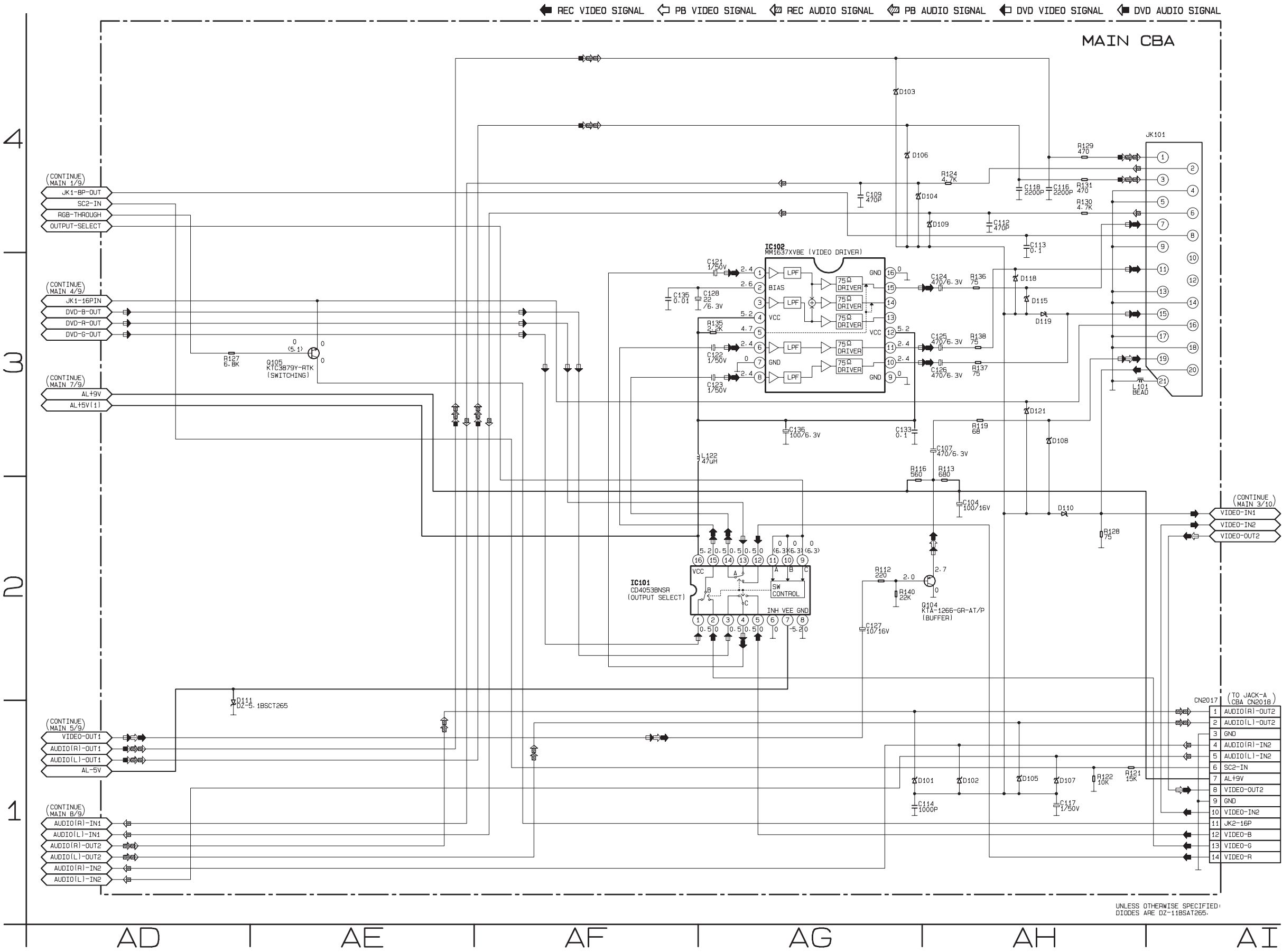
4
3
2
1



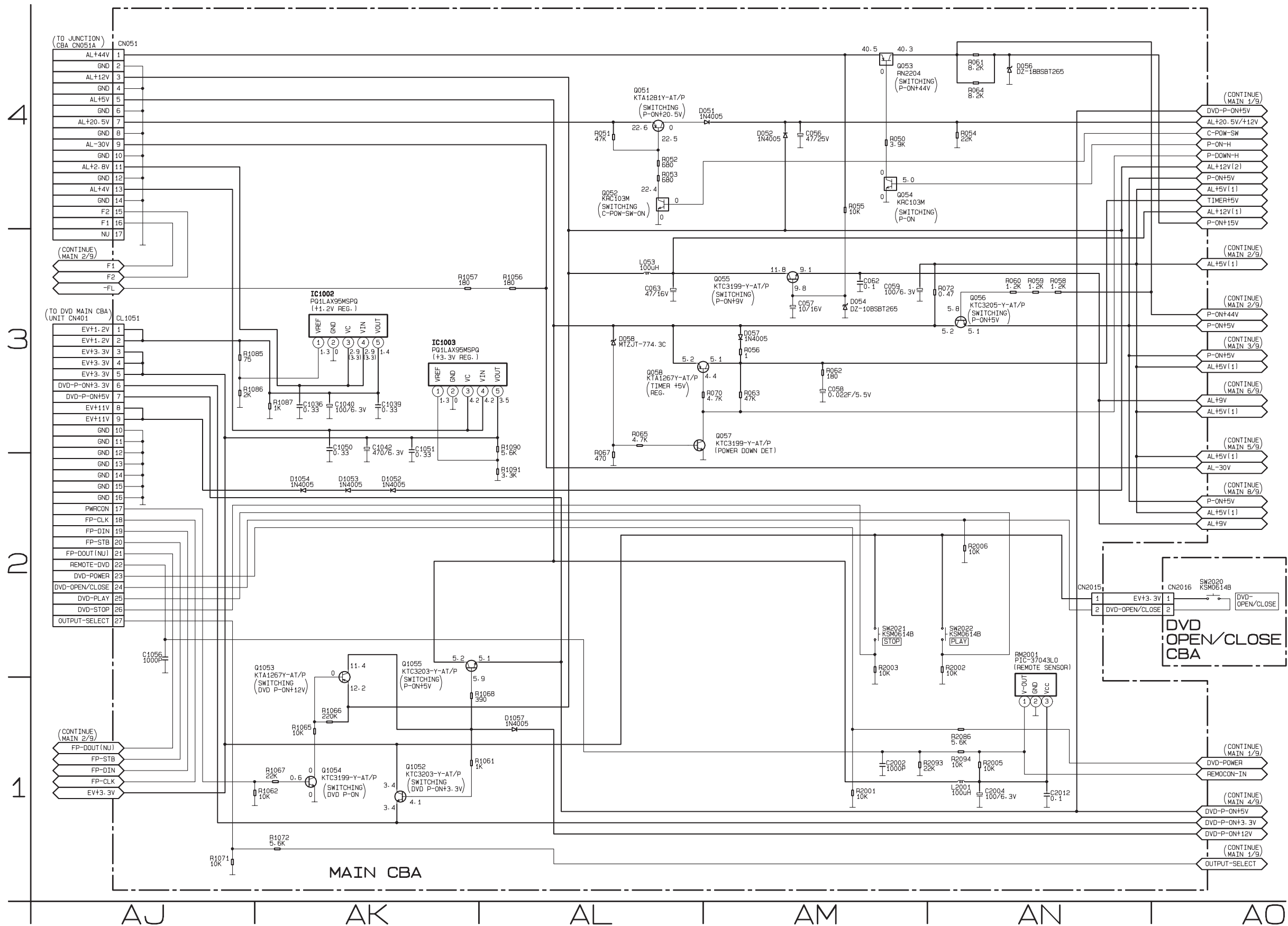
Main 5/9 Schematic Diagram < VCR Section >



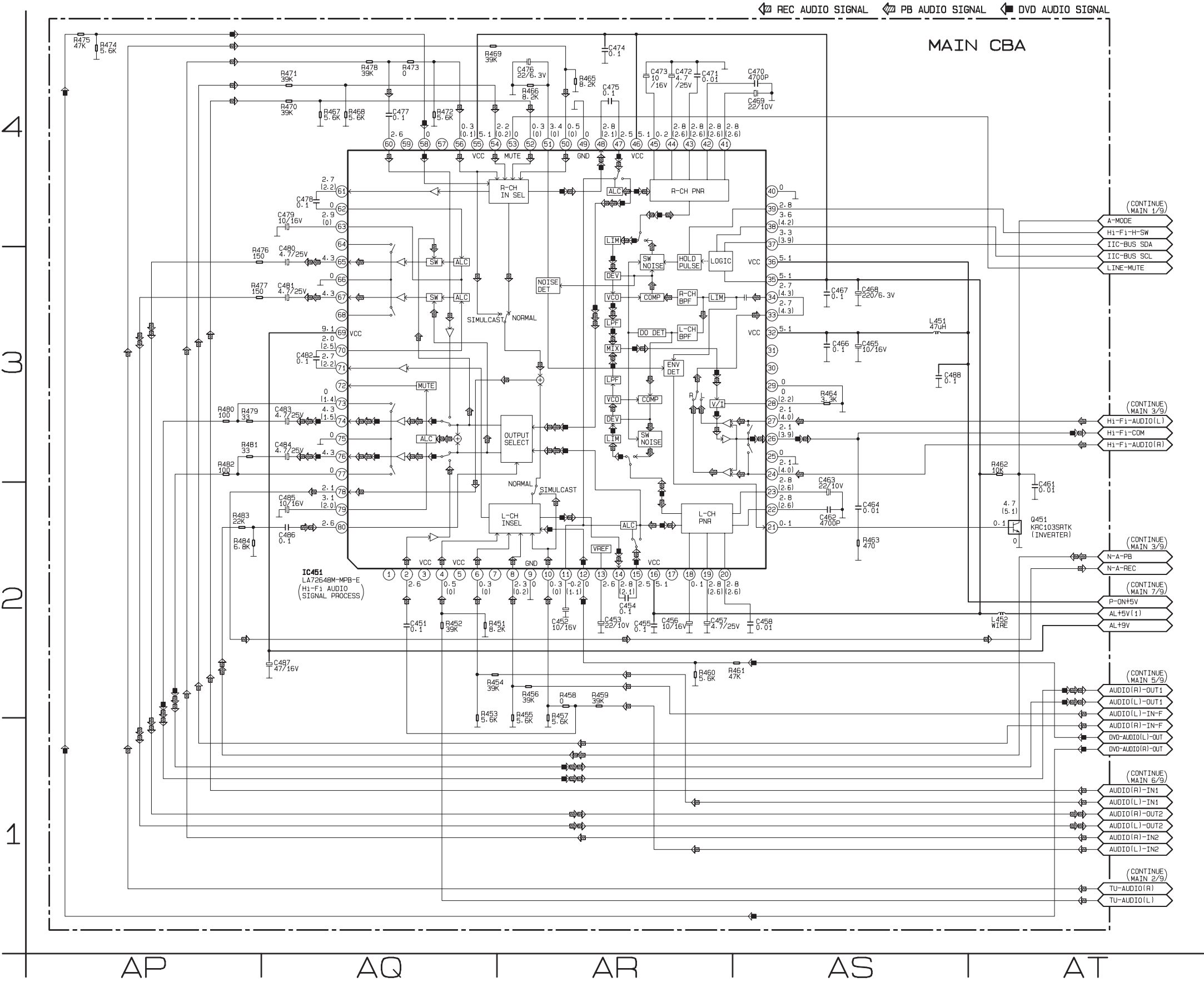
Main 6/9 Schematic Diagram < VCR Section >



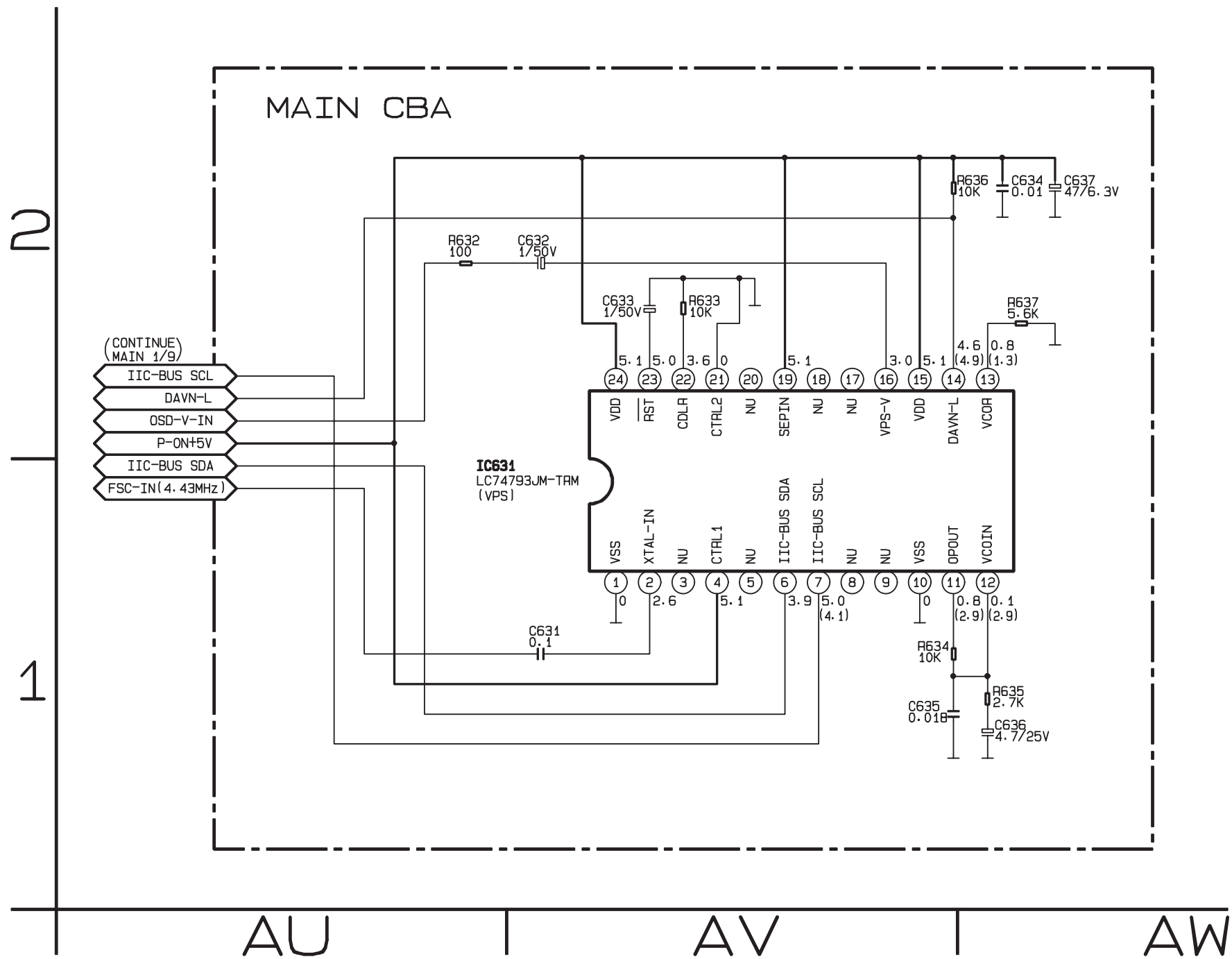
Main 7/9 & DVD Open/Close Schematic Diagram < VCR Section >



Main 8/9 Schematic Diagram < VCR Section >



Main 9/9 Schematic Diagram < VCR Section >

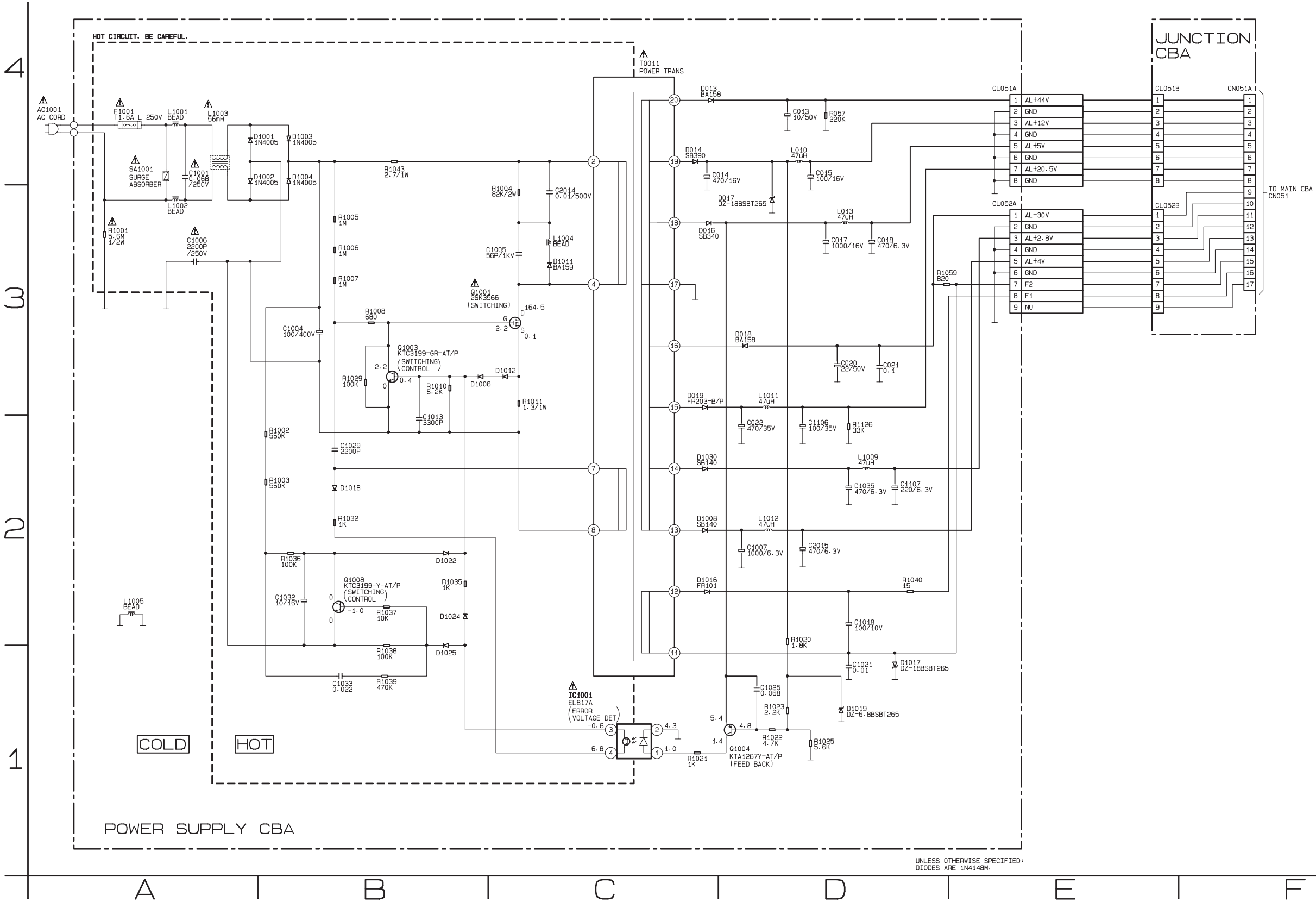


Power Supply & Junction Schematic Diagram < VCR Section >

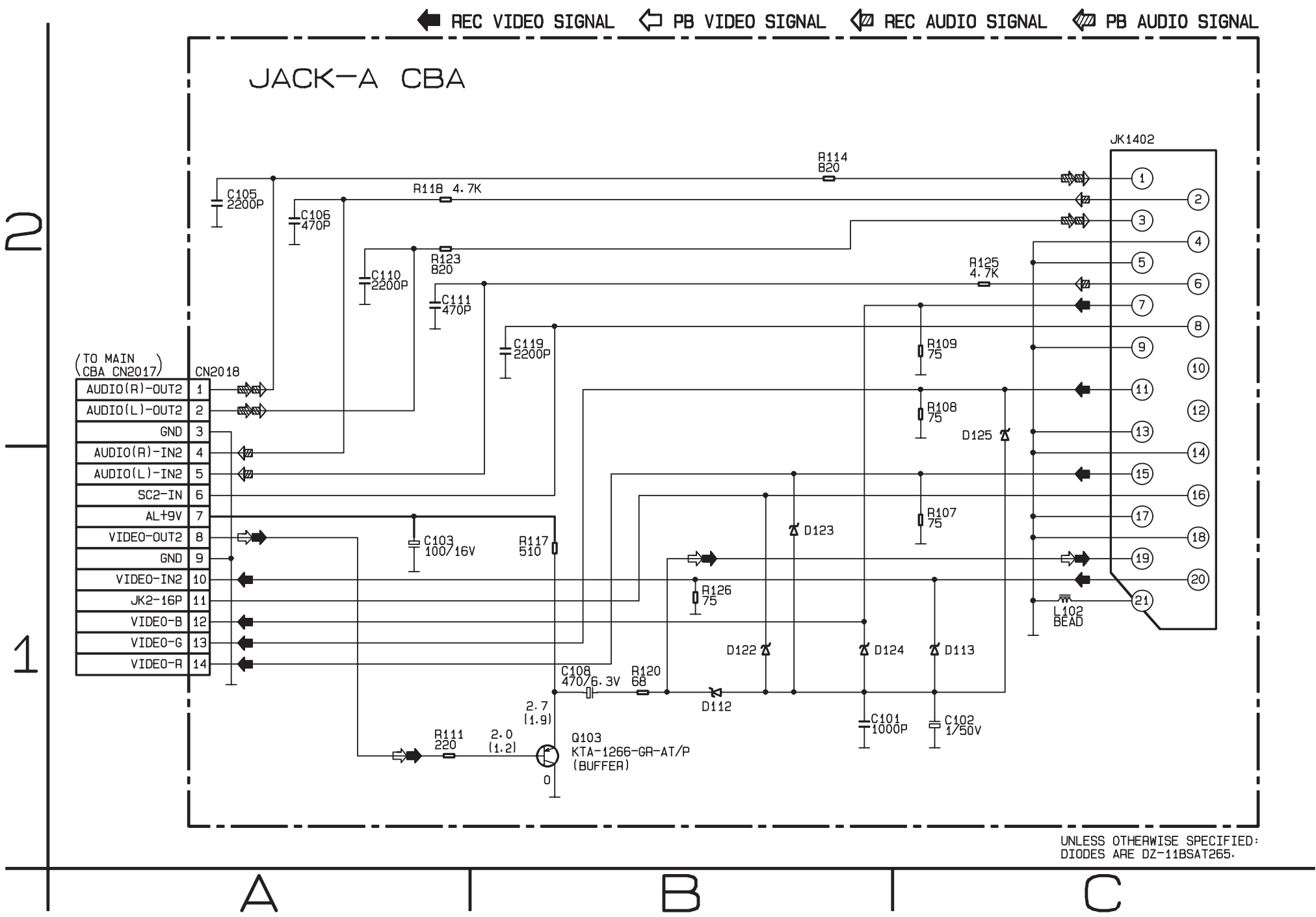
CAUTION !
For continued protection against fire hazard,
replace only with the same type fuse.

NOTE:
The voltage for parts in hot circuit is measured using
hot GND as a common terminal.

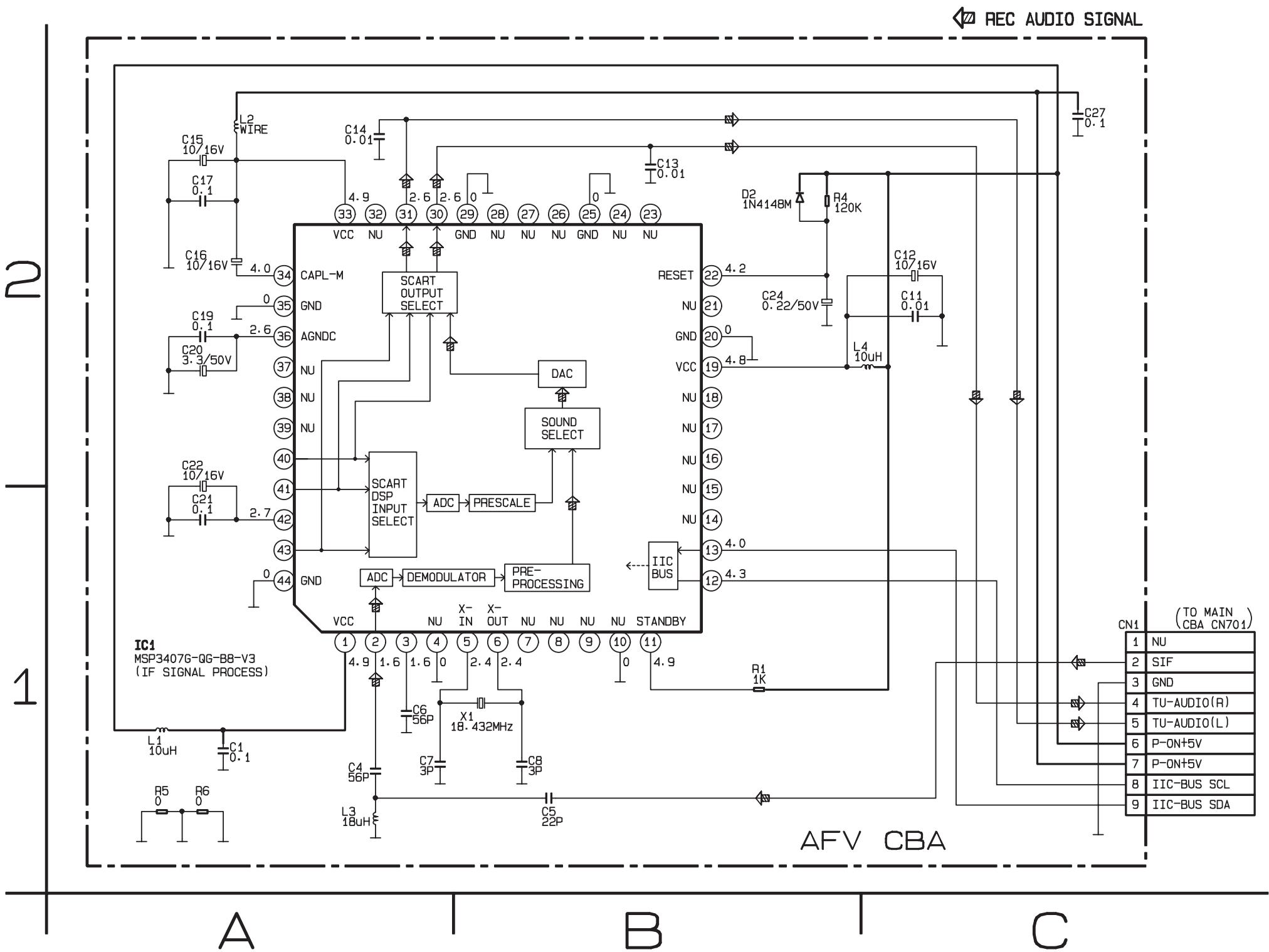
CAUTION !
Fixed voltage (or Auto voltage selectable) power supply circuit is used in this unit.
If Main Fuse (F1001) is blown , check to see that all components in the power supply
circuit are not defective before you connect the AC plug to the AC power supply.
Otherwise it may cause some components in the power supply circuit to fail.



Jack - A Schematic Diagram < VCR Section >

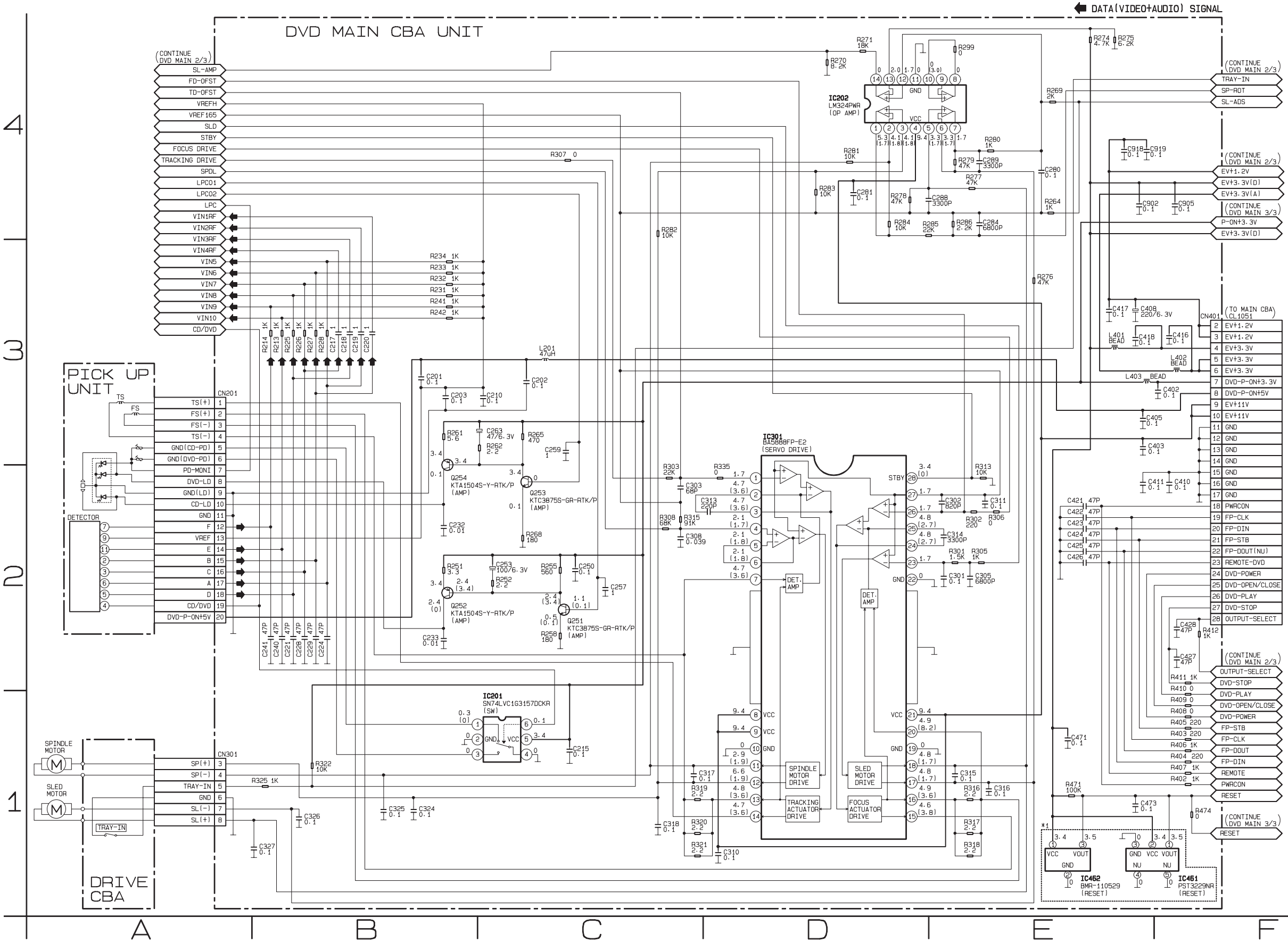


AFV Schematic Diagram < VCR Section >

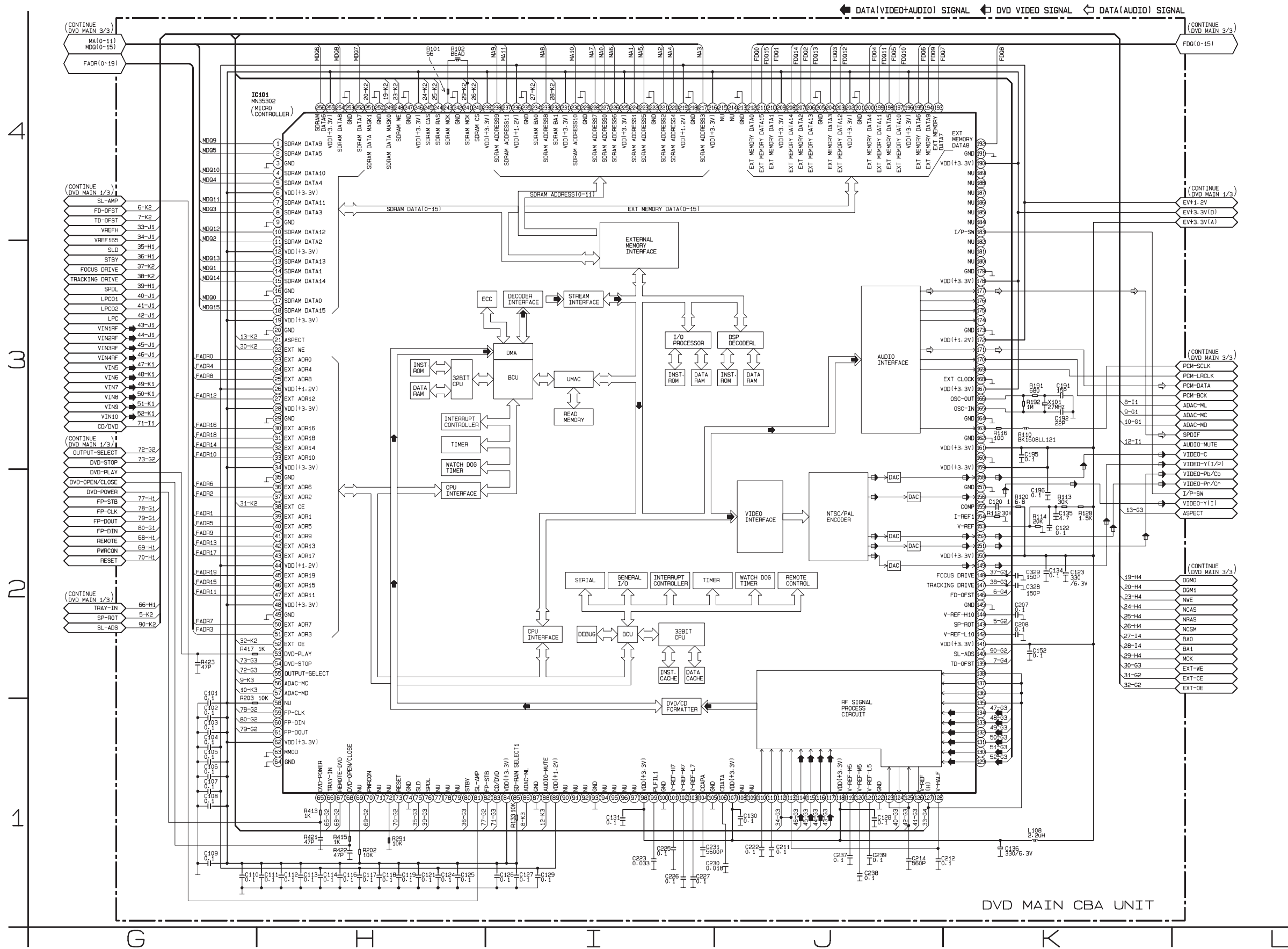


DVD Main 1/3 Schematic Diagram < DVD Section >

*1 NOTE:
Either IC461 or IC462 is used for DVD MAIN CBA UNIT.



DVD Main 2/3 Schematic Diagram < DVD Section >



IC101 Voltage Chart

~ : Voltage is not consistent ----- : Not used Unit : Volts

PIN.NO	PLAY	STOP	PIN.NO	PLAY	STOP	PIN.NO	PLAY	STOP	PIN.NO	PLAY	STOP	PIN.NO	PLAY	STOP	PIN.NO	PLAY	STOP	PIN.NO	PLAY	STOP	PIN.NO	PLAY	STOP
1	~	~	33	~	~	65	0	0	97	-----	-----	129	2.3	2.3	161	3.4	3.4	193	~	~	225	3.4	3.4
2	~	~	34	3.4	3.4	66	3.4	3.5	98	3.4	3.4	130	2.3	2.3	162	0	0	194	~	~	226	~	~
3	0	0	35	0	0	67	3.2	3.2	99	0.9	0.8	131	2.3	2.3	163	1.8	1.8	195	~	~	227	~	~
4	~	~	36	~	~	68	0	0	100	0	0	132	2.4	2.3	164	0	0	196	3.4	3.4	228	~	~
5	~	~	37	~	~	69	3.4	3.4	101	2.4	2.4	133	2.4	2.4	165	1.7	1.8	197	~	~	229	0	0
6	3.4	3.4	38	0.4	0.3	70	3.4	3.4	102	2.2	2.2	134	2.4	2.4	166	1.7	1.7	198	~	~	230	~	~
7	~	~	39	~	~	71	-----	-----	103	1.9	1.9	135	2.3	2.3	167	3.4	3.4	199	~	~	231	3.4	3.4
8	~	~	40	~	~	72	1.4	2.7	104	0.4	0.3	136	2.3	2.3	168	0	0	200	~	~	232	1.3	1.6
9	0	0	41	~	~	73	3.4	3.4	105	0	0	137	2.3	2.3	169	1.8	1.8	201	0	0	233	~	~
10	~	~	42	~	~	74	0	0	106	1.7	1.7	138	2.3	2.3	170	1.7	1.7	202	3.4	3.4	234	1.9	2.3
11	~	~	43	~	~	75	1.7	1.8	107	3.4	3.4	139	1.7	1.7	171	1.3	0.1	203	~	~	235	0	0
12	3.4	3.4	44	1.3	1.3	76	2.3	1.8	108	-----	-----	140	1.7	1.7	172	1.3	1.3	204	~	~	236	1.3	1.3
13	~	~	45	~	~	77	-----	-----	109	-----	-----	141	3.4	3.4	173	0	0	205	0	0	237	-----	-----
14	~	~	46	~	~	78	-----	-----	110	1.9	1.9	142	1.3	1.3	174	-----	-----	206	~	~	238	~	~
15	~	~	47	~	~	79	-----	-----	111	1.9	1.9	143	2.1	1.7	175	-----	-----	207	~	~	239	3.4	3.4
16	0	0	48	3.4	3.4	80	3.4	0.1	112	1.7	1.7	144	2.2	2.2	176	-----	-----	208	~	~	240	3.4	3.3
17	~	~	49	0	0	81	0.1	0.1	113	1.7	1.7	145	0	0	177	1.8	1.7	209	3.4	3.4	241	1.9	1.9
18	~	~	50	~	~	82	2.8	2.8	114	1.7	1.7	146	1.7	1.7	178	3.4	3.5	210	~	~	242	0	0
19	3.4	3.4	51	~	~	83	0.1	0.1	115	1.7	1.7	147	1.8	1.7	179	0	0	211	~	~	243	1.9	1.9
20	0	0	52	0.8	0.8	84	3.4	3.4	116	1.7	1.7	148	1.7	1.7	180	-----	-----	212	~	~	244	3.4	3.3
21	-----	-----	53	0	0	85	0.1	0.1	117	1.7	1.7	149	0.6	0.5	181	-----	-----	213	0	0	245	3.4	3.4
22	3.5	3.5	54	0	0	86	3.6	3.4	118	3.4	3.4	150	3.4	3.4	182	-----	-----	214	-----	-----	246	3.4	3.4
23	~	~	55	1.4	1.4	87	0	0	119	2.0	2.0	151	0.5	0.6	183	3.5	3.5	215	-----	-----	247	0	0
24	~	~	56	3.4	3.4	88	3.5	0.1	120	1.7	1.7	152	0.5	0.4	184	-----	-----	216	3.4	3.4	248	3.3	3.4
25	~	~	57	3.5	3.5	89	1.3	1.3	121	1.5	1.5	153	1.4	1.3	185	-----	-----	217	~	~	249	3.2	3
26	1.3	1.3	58	3.4	3.4	90	-----	-----	122	0	0	154	1.4	1.3	186	-----	-----	218	0	0	250	0	0
27	~	~	59	3.4	3.4	91	-----	-----	123	0.3	0.1	155	2.4	2.4	187	-----	-----	219	1.3	1.3	251	3.2	3.0
28	3.4	3.4	60	3.4	3.4	92	-----	-----	124	1.2	0.1	156	3.4	3.4	188	-----	-----	220	~	~	252	~	~
29	0	0	61	3.5	3.5	93	0	0	125	0.3	0.1	157	0	0	189	-----	-----	221	~	~	253	0	0
30	~	~	62	3.4	3.4	94	-----	-----	126	0.1	0.1	158	0.9	0.9	190	3.4	3.5	222	0	0	254	~	~
31	~	~	63	0	0	95	-----	-----	127	2.3	2.3	159	3.4	3.4	191	0	0	223	~	~	255	3.4	3.4
32	~	~	64	0	0	96	-----	-----	128	1.7	1.7	160	0	0	192	~	~	224	~	~	256	~	~

4

3

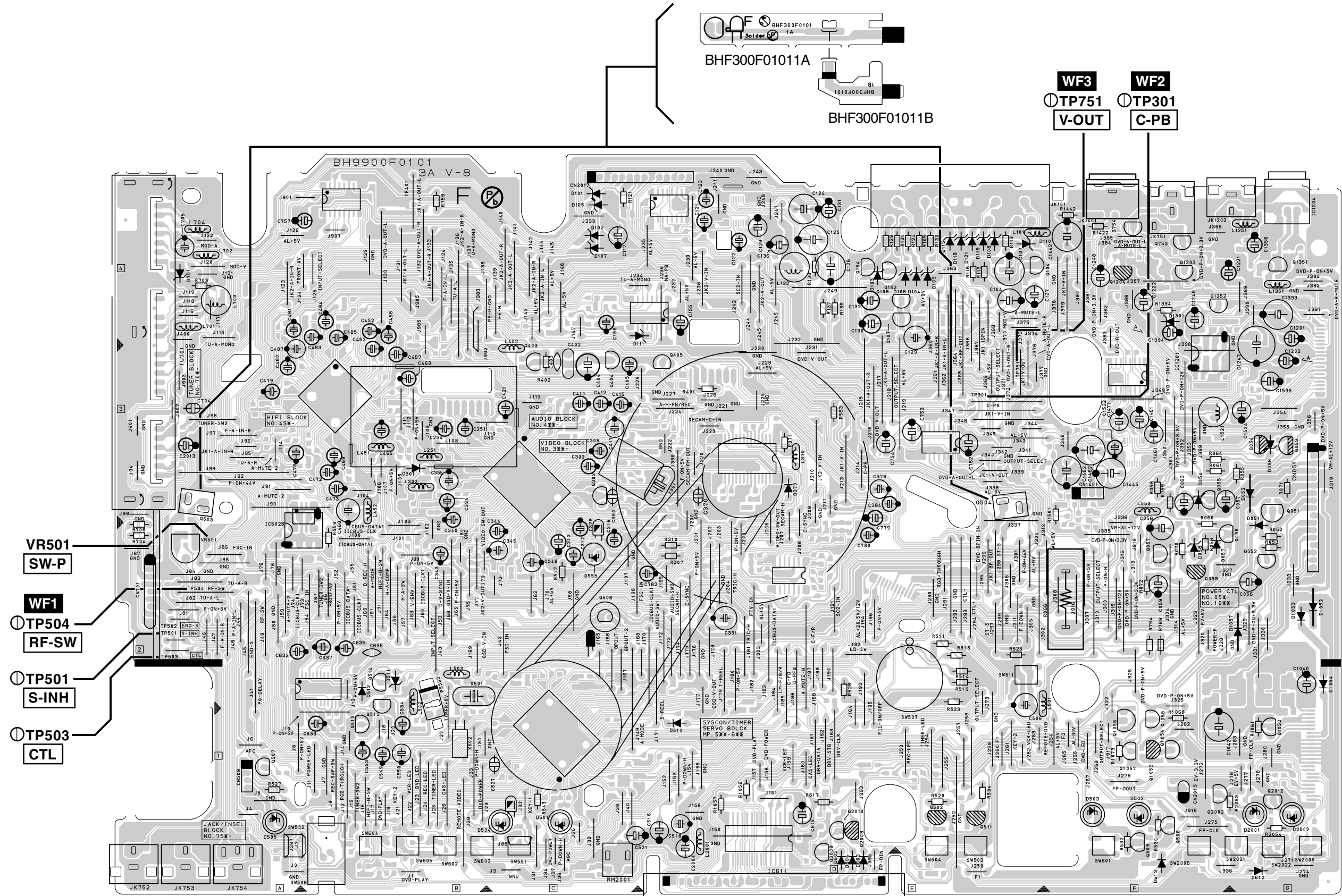
2

1

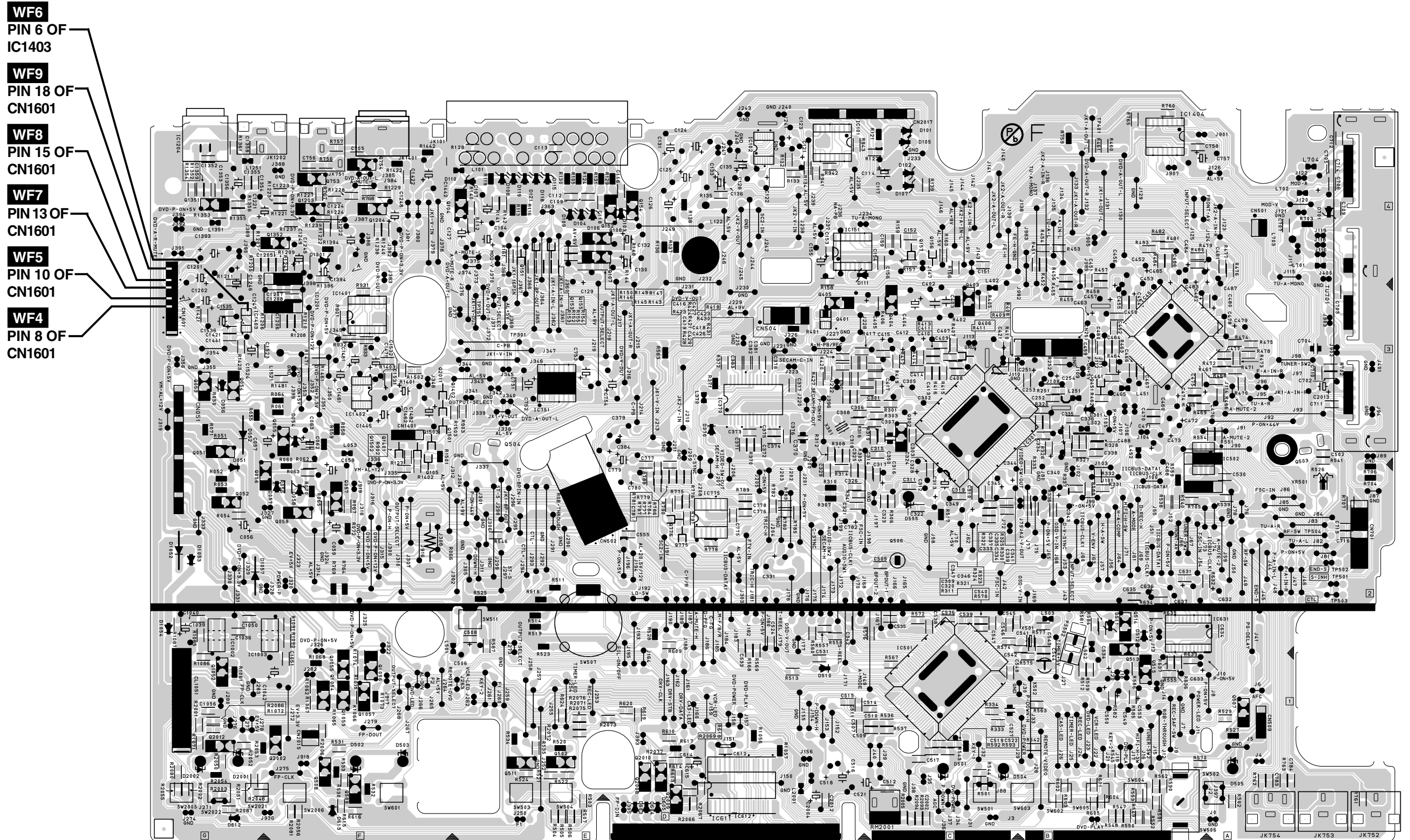


Main CBA & Sensor CBA Top View < VCR Section >

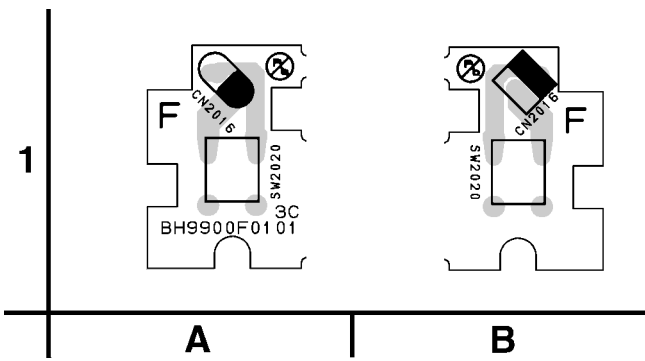
Sensor CBA Top View
< VCR Section >



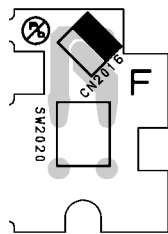
Main CBA Bottom View < VCR Section >



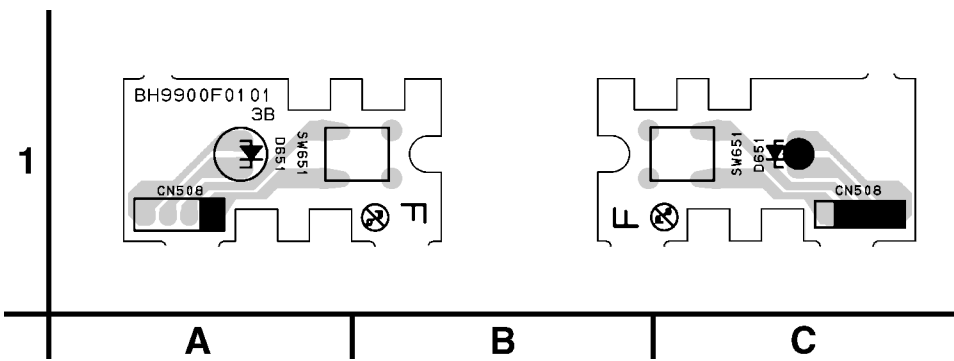
DVD Open/Close CBA
Top View
<VCR Section>



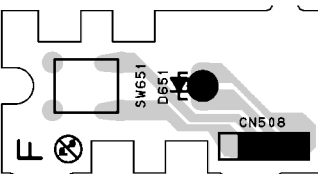
DVD Open /Close CBA
Bottom View
<VCR Section>



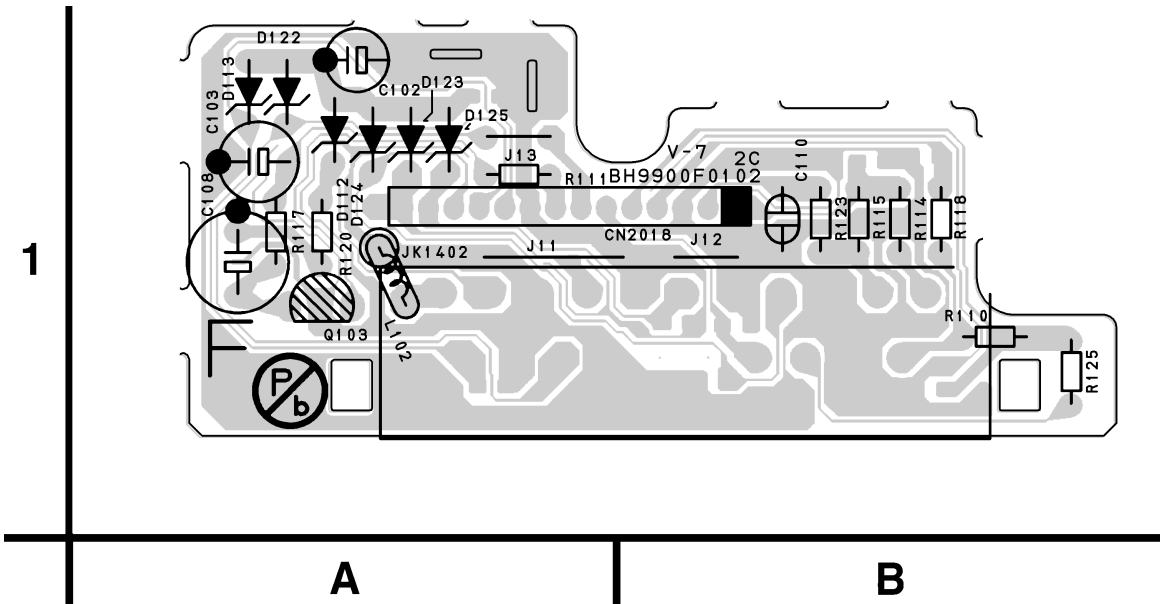
Power SW CBA Top View
< VCR Section >



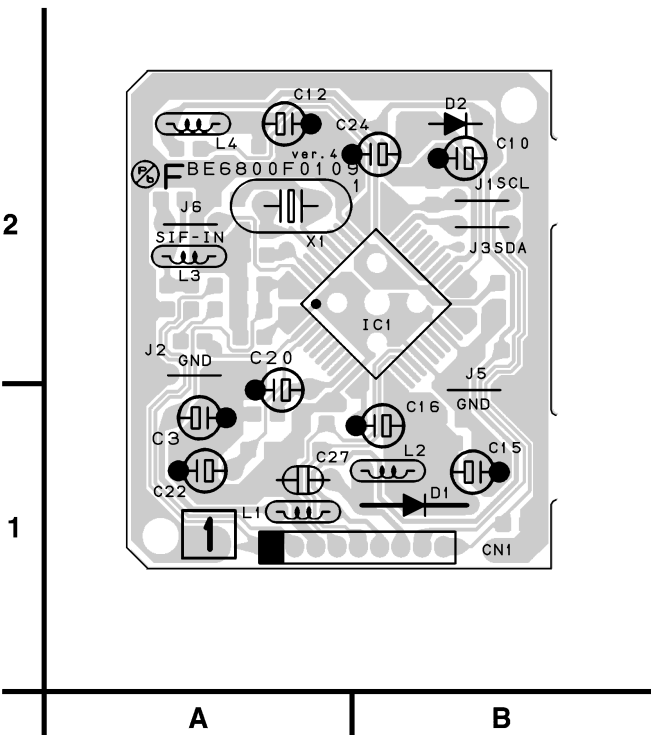
Power SW CBA Bottom View
< VCR Section >



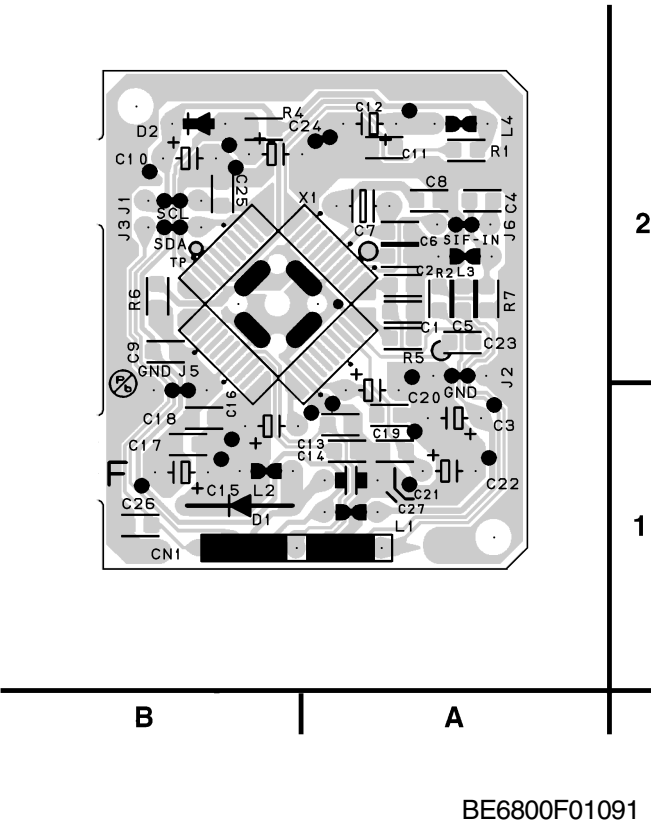
Jack -A CBA Top View <VCR Section>



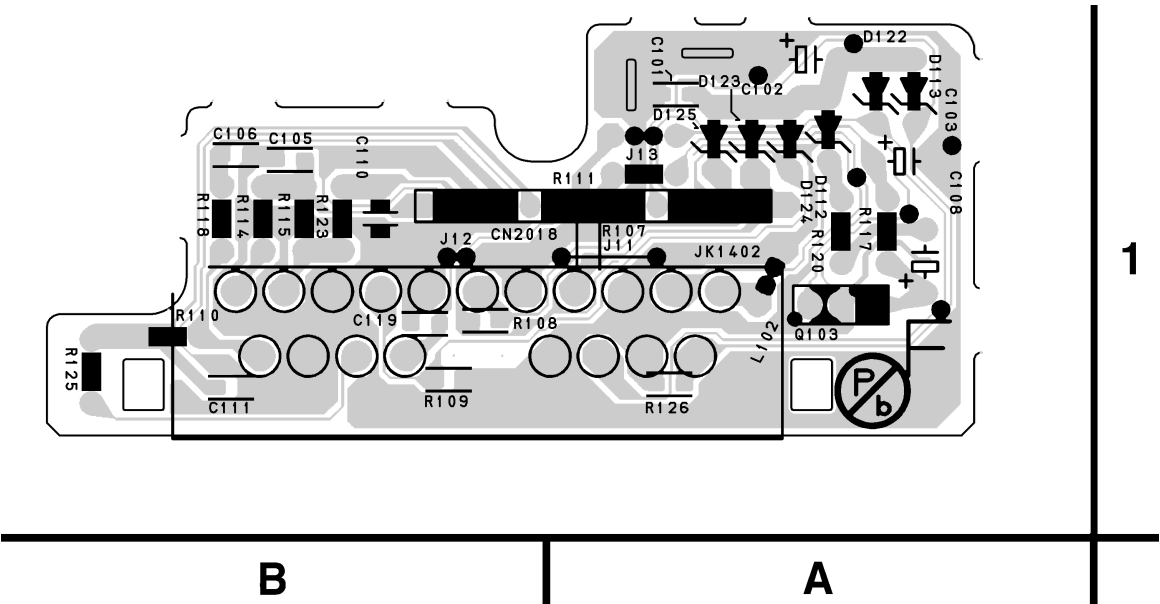
AFV CBA Top View
<VCR Section>



AFV CBA Bottom View
<VCR Section>



Jack -A CBA Bottom View <VCR Section>



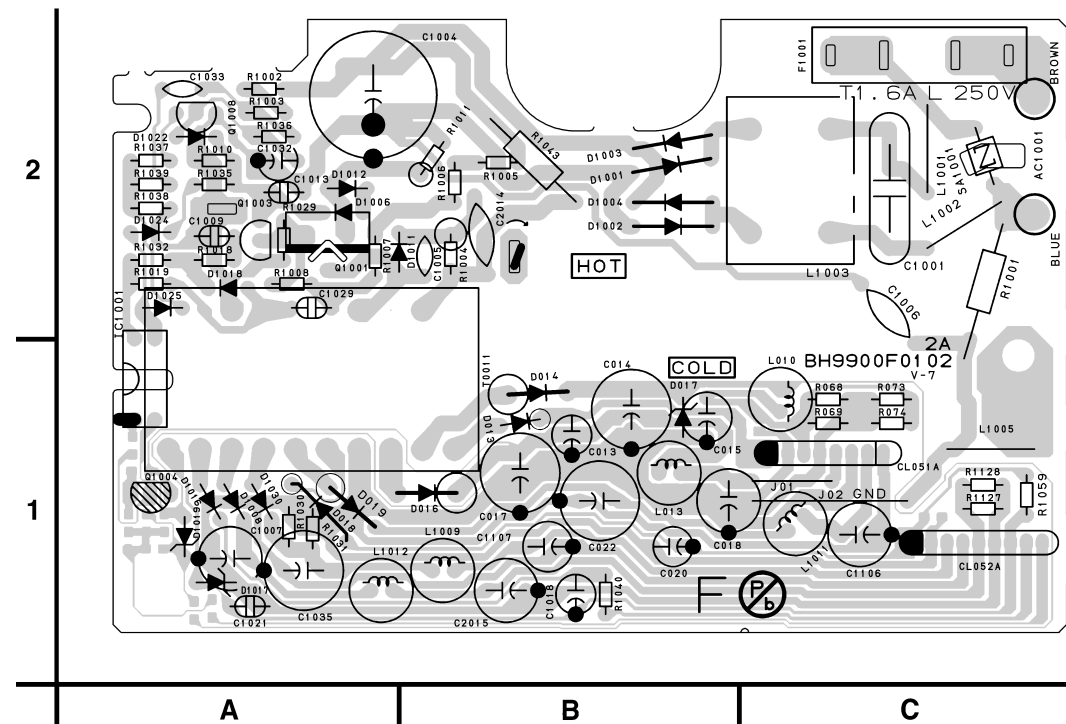
Power Supply CBA Top View <VCR Section>

CAUTION !

For continued protection against fire hazard,
replace only with the same type fuse.

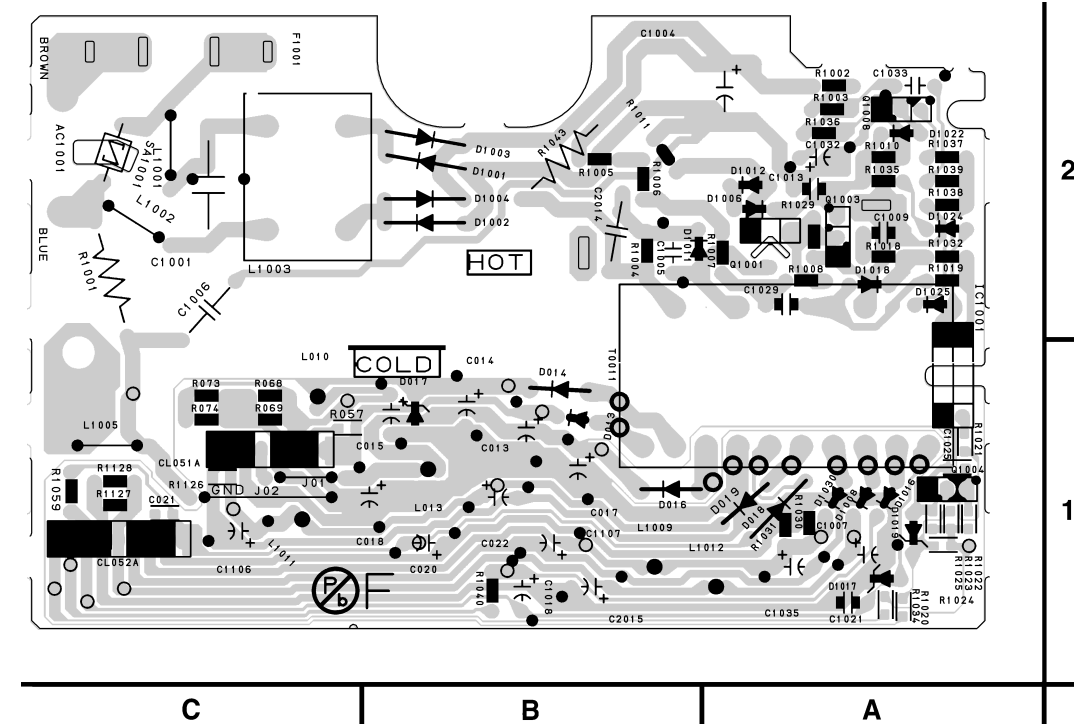
NOTE:

The voltage for parts in hot circuit is measured using hot GND as a common terminal.



Power Supply CBA Bottom View <VCR Section>

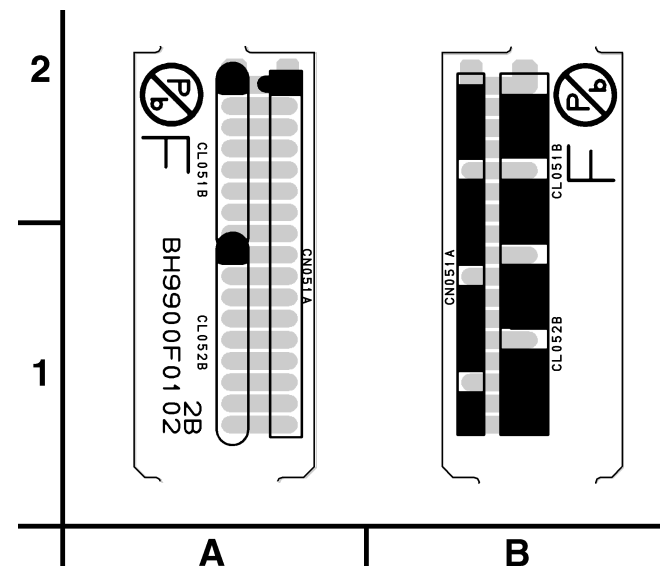
Because a hot chassis ground is present in the power supply circuit, an isolation transformer must be used. Also, in order to have the ability to increase the input slowly, when troubleshooting this type power supply circuit, a variable isolation transformer is required.



BH9900F01022A

Junction CBA Top View <VCR Section>

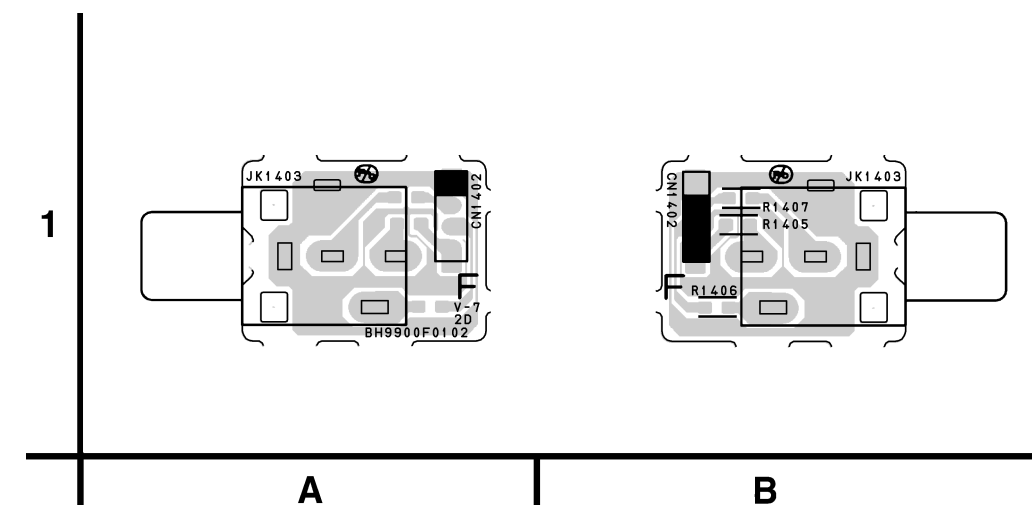
Junction CBA Bottom View
<VCR Section>



BH9900F01022B

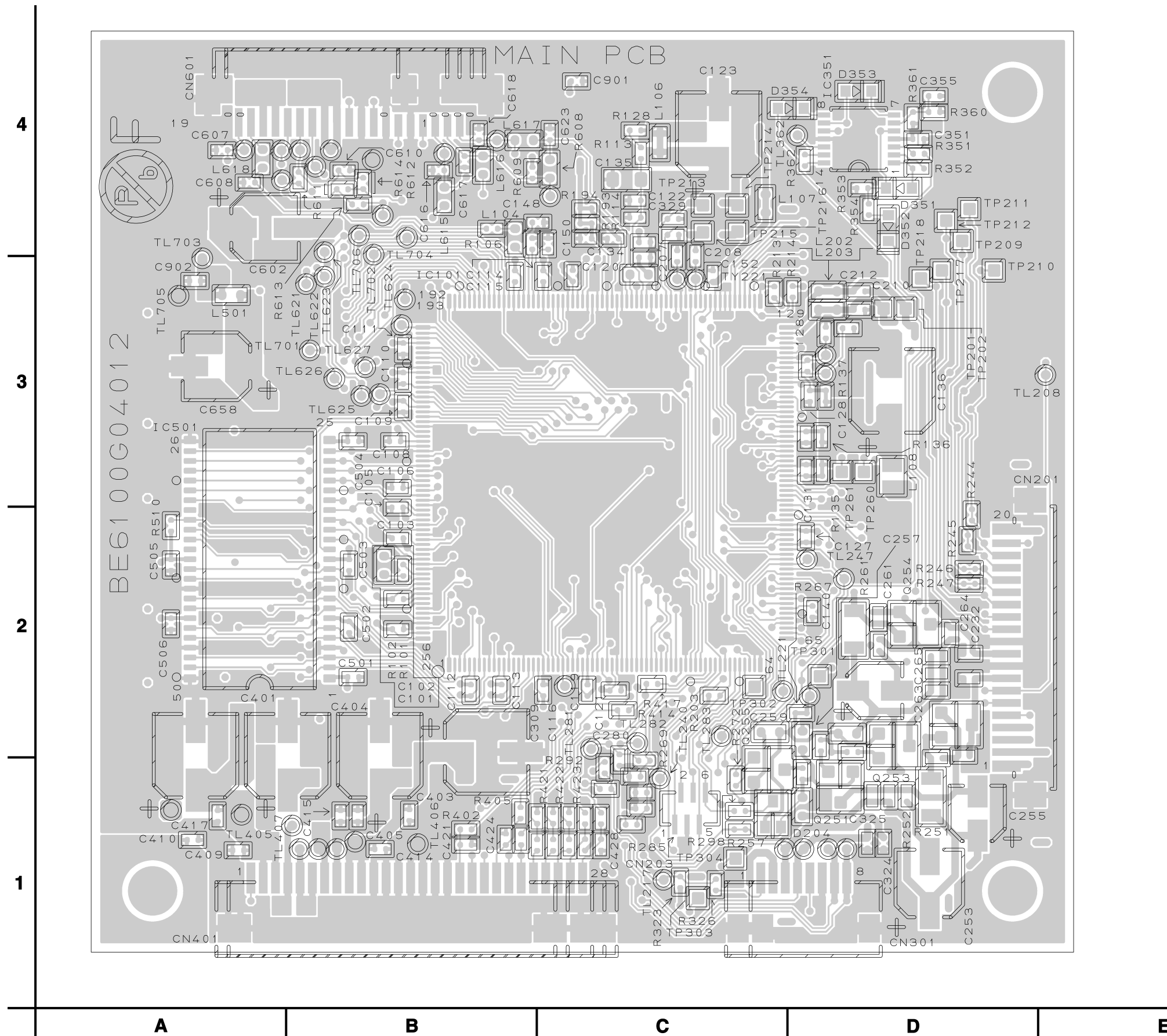
Jack -B CBA Top View
< VCR Section >

Jack -B CBA Bottom View
< VCR Section >

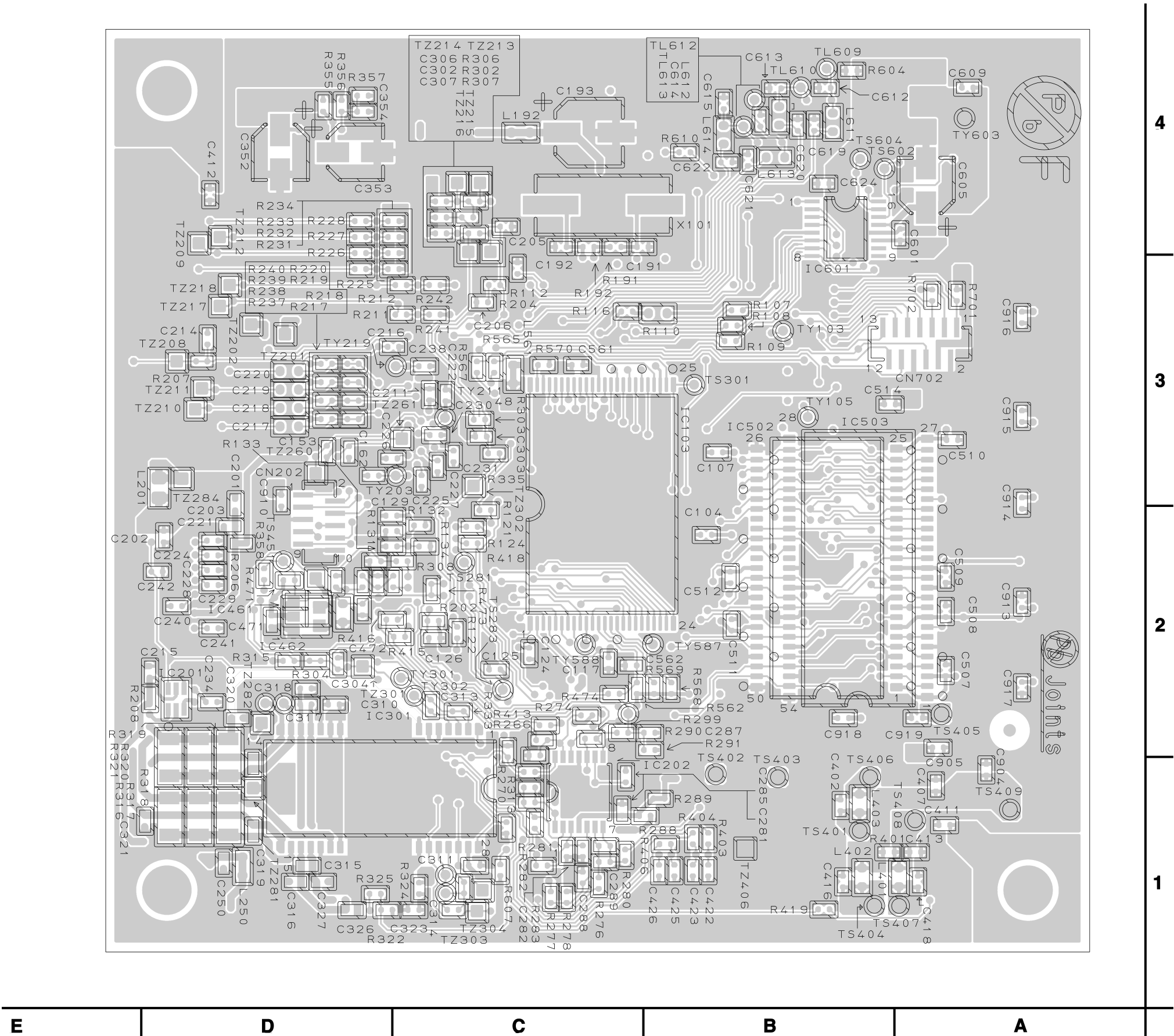


BH9900F01022D

DVD Main CBA Top View < DVD Section >



DVD Main CBA Bottom View < DVD Section >



WAVEFORMS

NOTE:

Input

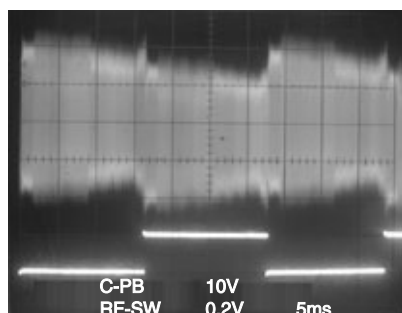
VCR: COLOR BAR SIGNAL (WITH 1KHz AUDIO SIGNAL)
(WF1~WF3)

DVD: POWER ON (STOP) MODE
(WF4~WF6)

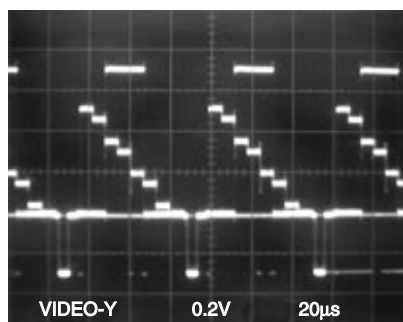
CD: 1kHz PLAY
(WF7~WF9)

WF2 UPPER TP301

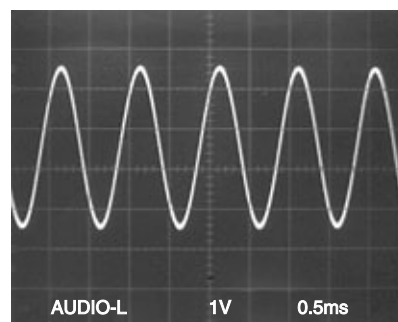
WF1 LOWER TP504



WF4 Pin 8 of CN1601

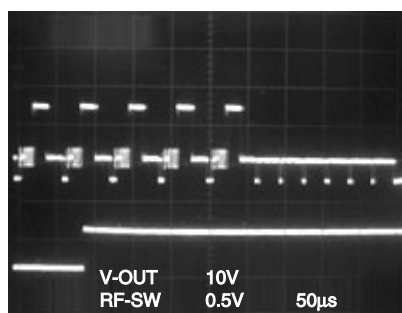


WF7 Pin 13 of CN1601

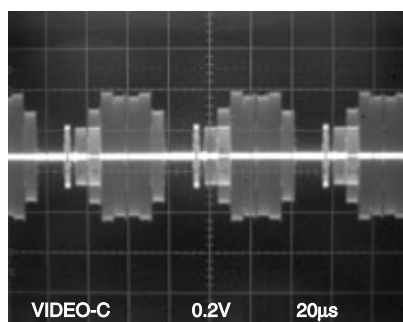


WF3 UPPER TP751

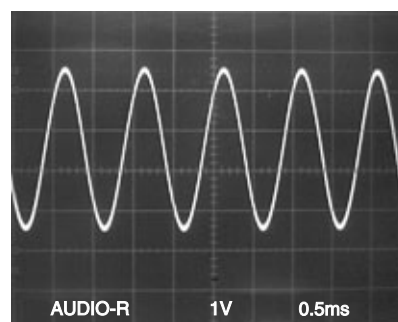
WF1 LOWER TP504



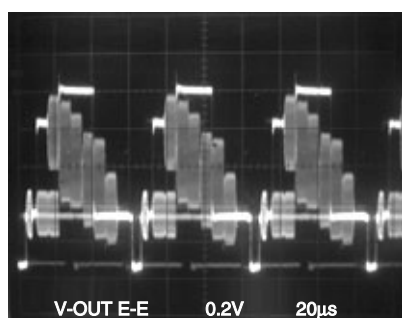
WF5 Pin 10 of CN1601



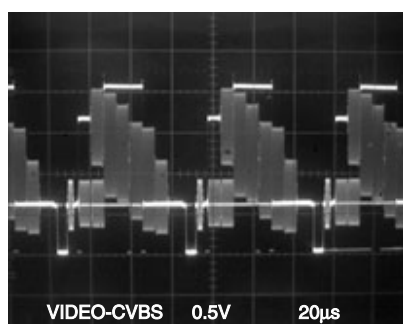
WF8 Pin 15 of CN1601



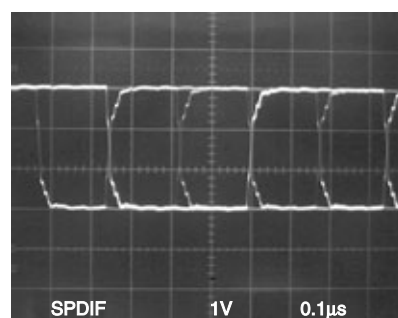
WF3 TP751



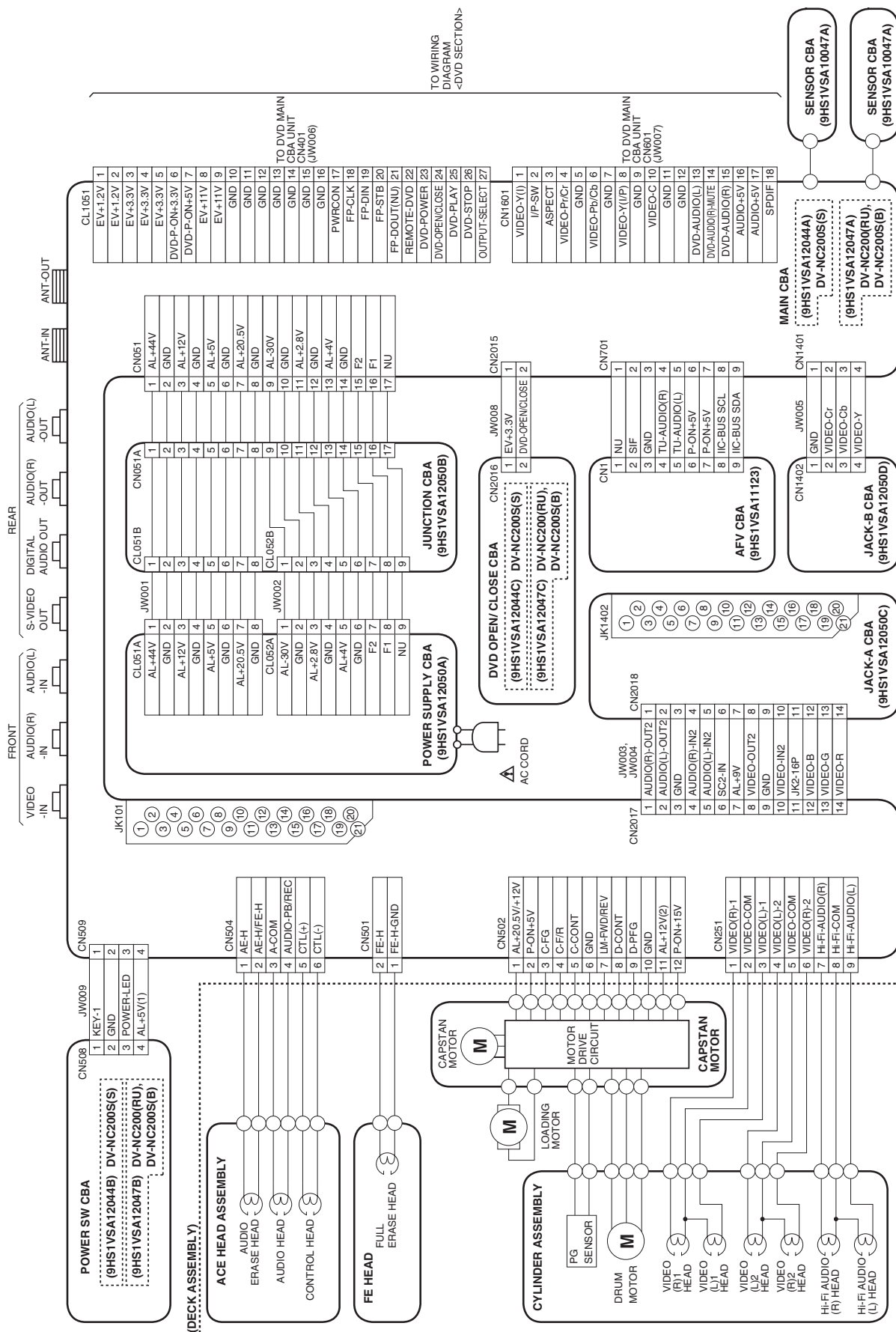
WF6 Pin 6 of IC1403



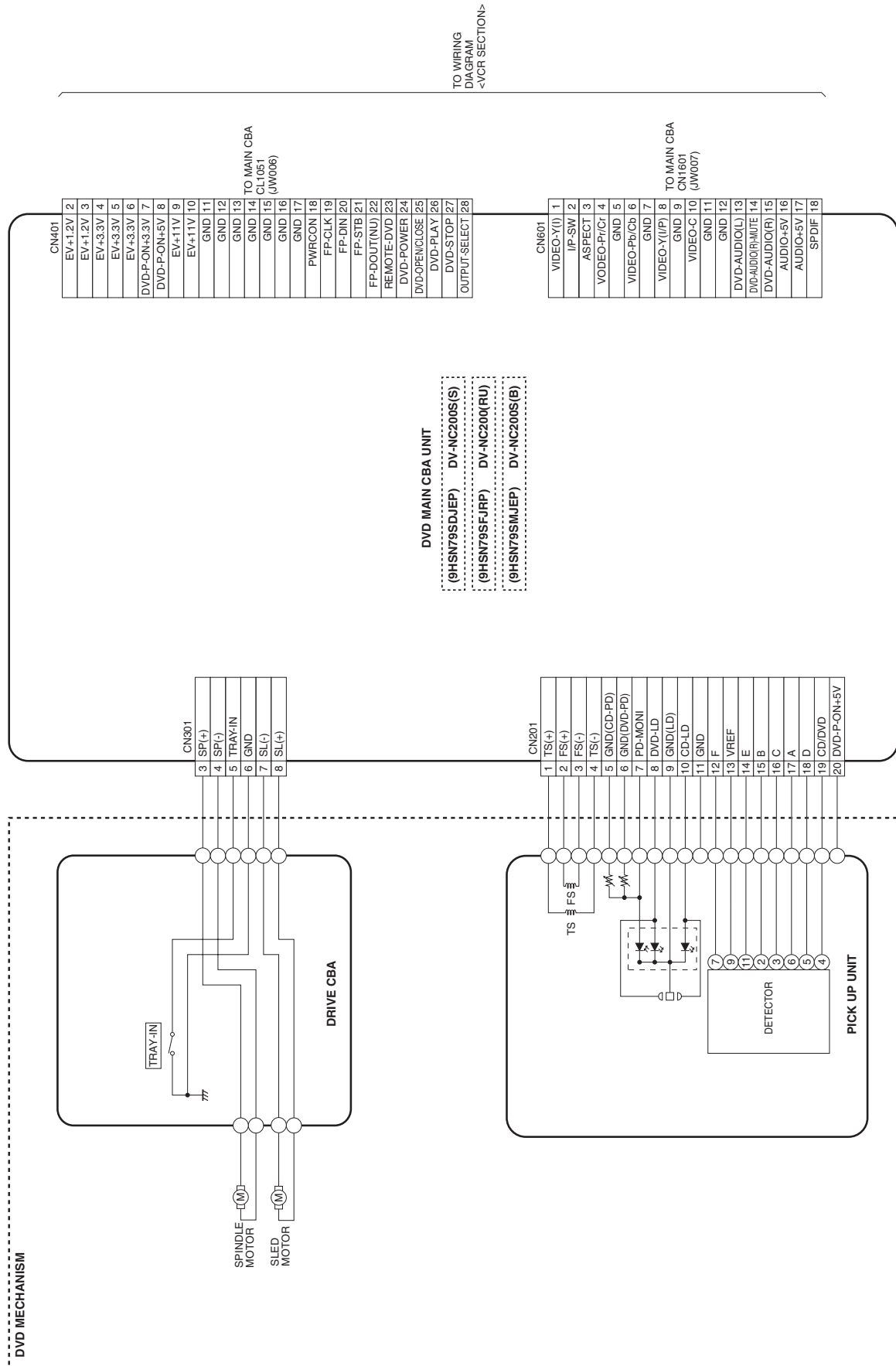
WF9 Pin 18 of CN1601



WIRING DIAGRAM < VCR SECTION >



WIRING DIAGRAM < DVD SECTION >



IC PIN FUNCTION DESCRIPTIONS

[VCR Section]

Comparison Chart of Models and Marks

Model	Mark
DV-NC200S(S)	A
DV-NC200(RU)	B
DV-NC200S(B)	C

IC501(SERVO / SYSTEM CONTROL IC)

"H" ≥ 4.5V, "L" ≤ 1.0V

Pin No.	Mark	IN/OUT	Signal Name	Function	Active Level
1		IN	SC2-IN	Input Signal from Pin 8 of SCART2	A/D
2		IN	PG-DELAY	Video Head Switching Pulse Signal Adjusted Voltage	A/D
3		IN	POW-SAF	P-ON Power Detection Input Signal	A/D
4		IN	END-S	Tape End Position Detect Signal	A/D
5		IN	AFC	Automatic Frequency Control Signal	A/D
6		IN	V-ENV	Video Envelope Comparator Signal	A/D
7		IN	KEY-1	Key Scan Input Signal 1	A/D
8		IN	KEY-2	Key Scan Input Signal 2	A/D
9		IN	LD-SW	Deck Mode Position Detector Signal	A/D
10		IN	ST-S	Tape Start Position Detector Signal	A/D
11		-	NU	Not Used	-
12		-	NU	Not Used	-
13		OUT	D-V-SYNC	Dummy V-sync Output	H/Hi-z
14		IN	REMOCON-IN	Remote Control Sensor	L
15		OUT	C-ROTA	Color Phase Rotary Changeover Signal	H/L

Pin No.	Mark	IN/OUT	Signal Name	Function	Active Level
16		OUT	H-A-SW	Video Head Amp Switching Pulse	H/L
17		IN	H-A-COMP	Head Amp Comparator Signal	H/L
18		OUT	RF-SW	Video Head Switching Pulse	H/L
19		OUT	Hi-Fi-H-SW	HiFi Audio Head Switching Pulse	H/L
20		-	NU	Not Used	-
21		OUT	DVD-POWER	DVD Power Control Signal	H
22		-	NU	Not Used	-
23		OUT	POWER-LED	"POWER" LED Signal Output	H/L
24		-	NU	Not Used	-
25		OUT	TIMER-LED	"TIMER" LED Signal Output	H
26		OUT	REC-LED	Recording LED Control Signal	H
27		OUT	RGB-THROUGH	SCART 2 RGB Through Control Signal	L/Hi-z
28		OUT	LINE-MUTE	Audio Mute Control Signal	H
29		OUT	DVD-LED	"DVD" LED Signal Output	H/L
30		OUT	VCR-LED	"VCR" LED Signal Output	H/L
31		IN	REC-SAF-SW	Recording Safety SW Detect (With Record tab="L"/ With out Record tab="H")	H/L
32		IN	P-DOWN-H	Power Voltage Down Detector Signal	H
33		OUT	D-REC-H	Delayed Record Signal	H
34		IN	RESET	System Reset Signal (Reset="L")	L
35		IN	Xcin	Sub Clock	-
36		OUT	Xcout	Sub Clock	-
37		-	Vcc	Vcc	-
38		IN	Xin	Main Clock Input	-
39		OUT	Xout	Main Clock Input	-

Pin No.	Mark	IN/OUT	Signal Name	Function	Active Level
40		-	GND	Vss(GND)	-
41		OUT	INPUT-SELECT	Input Selector Control Signal	H/L
42		IN	DVD-8PIN-IN	SCART 8Pin DVD Input Control Signal	H/L
43		IN	CLKSEL	Clock Select (GND)	L
44		IN	OSCI _n	Clock Input for letter size	-
45		OUT	OSCO _{ut}	Clock Output for letter size	-
46		-	NUB	Not Used	-
47		IN	LP	LP	-
48		IN	FSC-IN [4.43MHz]	4.43MHz Clock Input	-
49		-	OSDV _{ss}	OSDV _{ss}	-
50		IN	OSD-V-IN	OSD Video Signal Input	-
51		-	NU	Not Used	-
52		OUT	OSD-V-OUT	OSD Video Signal Output	-
53		-	OSDV _{cc}	OSDV _{cc}	-
54		-	HLF	LPF Connected Terminal (Slicer)	-
55	A	-	NU	Not Used	-
	B,C	IN	COLOR-IN	SECAM or MESECAM Chroma Video Input Signal at Super Impose	-
56	A	IN	DAVN-L	VPS/PDC Data Receive = "L"	L
	B,C	-	NU	Not Used	-
57		-	NU	Not Used	-
58		IN	C-SYNC	Composite Synchronized Pulse	PULSE
59		OUT	8POUT-1	Control SCART 1 8Pin Level by using 8POUT-1 and 8POUT-2	H/L
60		OUT	8POUT-2	Control SCART 1 8Pin Level by using 8POUT-1 and 8POUT-2	Hi-z/L
61		-	NU	Not Used	-
62		-	NU	Not Used	-

Pin No.	Mark	IN/OUT	Signal Name	Function	Active Level
63		-	NU	Not Used	-
64		-	NU	Not Used	-
65		-	NU	Not Used	-
66		OUT	C-POW-SW	Capstan Power Switching Signal	H/L
67		OUT	P-ON-H	Power On Signal at High	H
68		OUT	DRV-DATA	VFD Driver IC Control Data	H/L
69		OUT	DRV-STB	VFD Driver IC Chip Select Signal	H/L
70		OUT	DRV-CLK	VFD Driver IC Control Clock	H/L
71		OUT	IIC-BUS SCL	IIC BUS Control Clock	H/L
72		IN/OUT	IIC-BUS SDA	IIC BUS Control Data	H/L
73		-	NU	Not Used	-
74		-	NU	Not Used	-
75		IN	DVD-POWER-MONITOR	DVD Power Monitor Signal (P-off="L", P-on="H")	H/L
76		OUT	C-CONT	Capstan Motor Control Signal	PWM
77		OUT	D-CONT	Drum Motor Control Signal	PWM
78		OUT	C-F/R	Capstan Motor FWD/REV Control Signal (FWD="L"/REV="H")	H/L
79		IN	S-REEL	Supply Reel Rotation Signal	PULSE
80		IN	T-REEL	Take Up Reel Rotation Signal	PULSE
81		OUT	LM-FWD/REV	Loading Motor Control Signal	H/L/Hi-z
82		OUT	OUTPUT-SELECT	Output Select	H/L
83		OUT	AUDIO-MUTE-H	Audio Mute Control Signal (Mute = "H")	H
84		-	NU	Not Used	-
85		-	NU	Not Used	-
86		IN	A-MODE	Hi-Fi Tape Detection Signal	L

Pin No.	Mark	IN/OUT	Signal Name	Function	Active Level
87		IN	C-FG	Capstan Motor Rotation Detection Pulse	PULSE
88		-	NU	Not Used	-
89		-	NU	Not Used	-
90		IN	D-PFG	Drum Motor Phase/Frequency Generator	PULSE
91		-	AMPVREF OUT	V-Ref for CTL AMP	-
92		-	AMPVREF in	V-Ref for CTL AMP	-
93		-	P80/C	P80/C Terminal	-
94		IN/OUT	CTL (-)	Playback/Record Control Signal (-)	H/L
95		IN/OUT	CTL (+)	Playback/Record Control Signal (+)	H/L
96		-	AMPC	CTL AMP Connected Terminal	-
97		-	CTL	To Monitor for CTL AMP Output	PULSE
98		-	AMPVcc	AMPVcc	-
99		-	AVcc	A/D Converter Power Input/Standard Voltage Input	-
100		IN	AGC	IF AGC Comparator Signal	A/D

Notes:

Abbreviation for Active Level:

PWM -----Pulse Wide Modulation

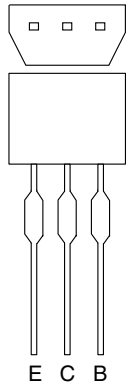
A/D-----Analog - Digital Converter

[DVD Section]

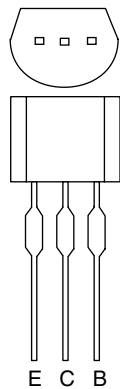
IC612 [PT6313-S -TP(L)]

Pin No.	In/Out	Signal Name	Name Function
1	In	FP-CLK	Clock Input
2	In	FP-STB	Serial Interface Strobe
3	-	NU	Not Used
4	-	NU	Not Used
5	-	VSS	GND
6	-	VDD	Power Supply
7	Out	a	Segment Output
8	Out	b	
9	Out	c	
10	Out	d	
11	Out	e	
12	Out	f	
13	Out	g	
14	Out	h	
15	-	VEE	Pull Down Level
16	Out	i	Segment Output
17	Out	7G	Grid Output
18		6G	
19		5G	
20		4G	
21		3G	
22		2G	
23		1G	
24	-	VDD	Power Supply
25	-	VSS	GND
26	In	OSC	Oscillator Input
27	-	NU	Not Used
28	In	FP-DIN	Serial Data Input

LEAD IDENTIFICATIONS

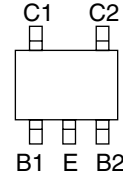


KRA103M
KRC103M
KTA1267Y-AT/P
KTC3199-(GR,BL,Y)-AT/P
KTA-1266-GR-AT/P
KRC103S RTK
RN2204(TE4 F T)

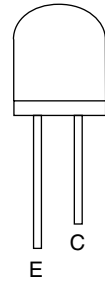


KTA1281Y-AT/P
KTC3203-Y-AT/P
KTC3205-Y-AT/P

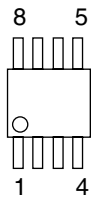
RN1511(TE85R.F)



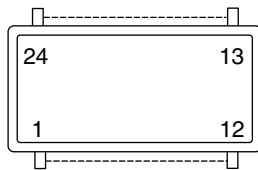
PT204-6B-12



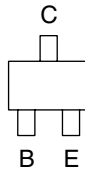
KIA4558P/P



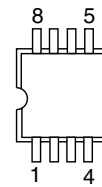
LC74793JM-TRM



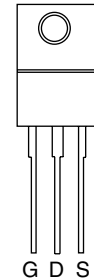
KTC3875S-Y-RTK/P
KTC3879Y-RTK



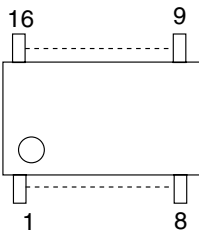
BR24L02F-WE2



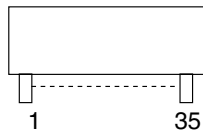
2SK3566



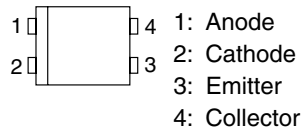
MM1637XVBE



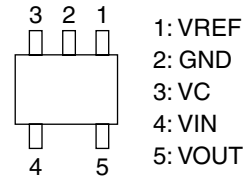
7-BT-298NAM



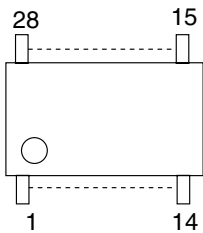
EL817A



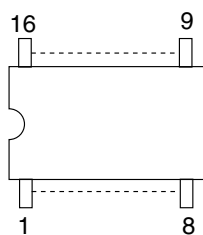
PQ1LAX95MSPQ



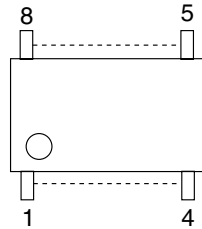
PT6313-S-TP(L)



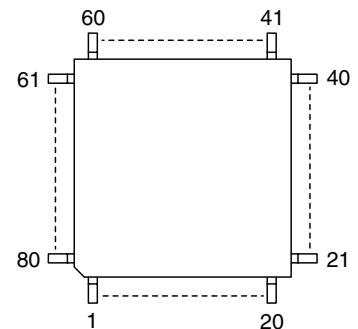
CD4053BNSR



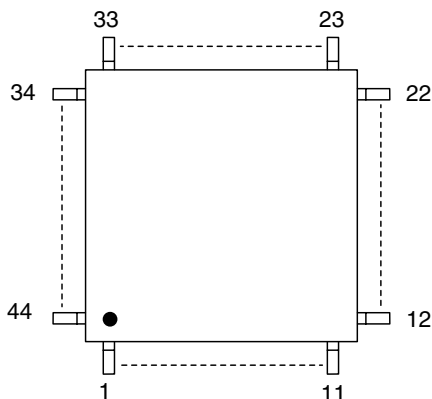
MM1636XWRE



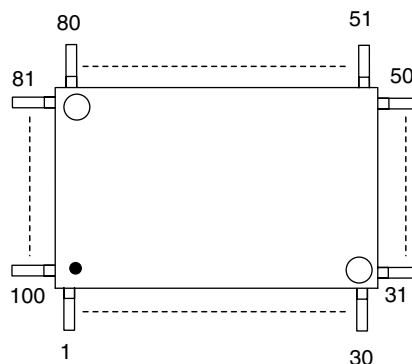
LA72648M-MPB-E



MSP3417G-QG-B8-V3



LA71750EM-MPB-E
M3776AMCH-AA5GP

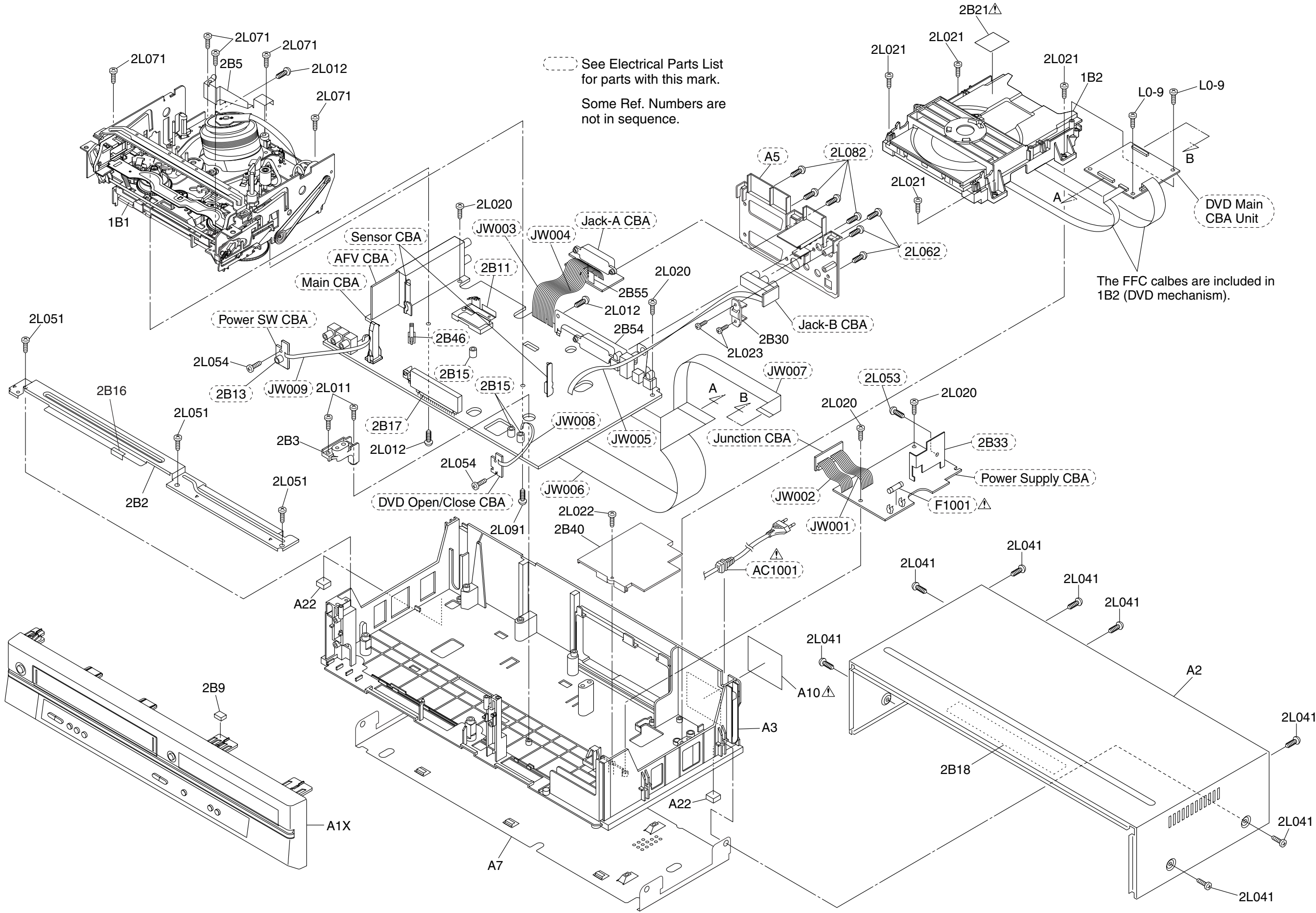


Note:

A: Anode
K: Cathode
E: Emitter
C: Collector
B: Base
R: Reference
S: Source
G: Gate
D: Drain

EXPLODED VIEWS

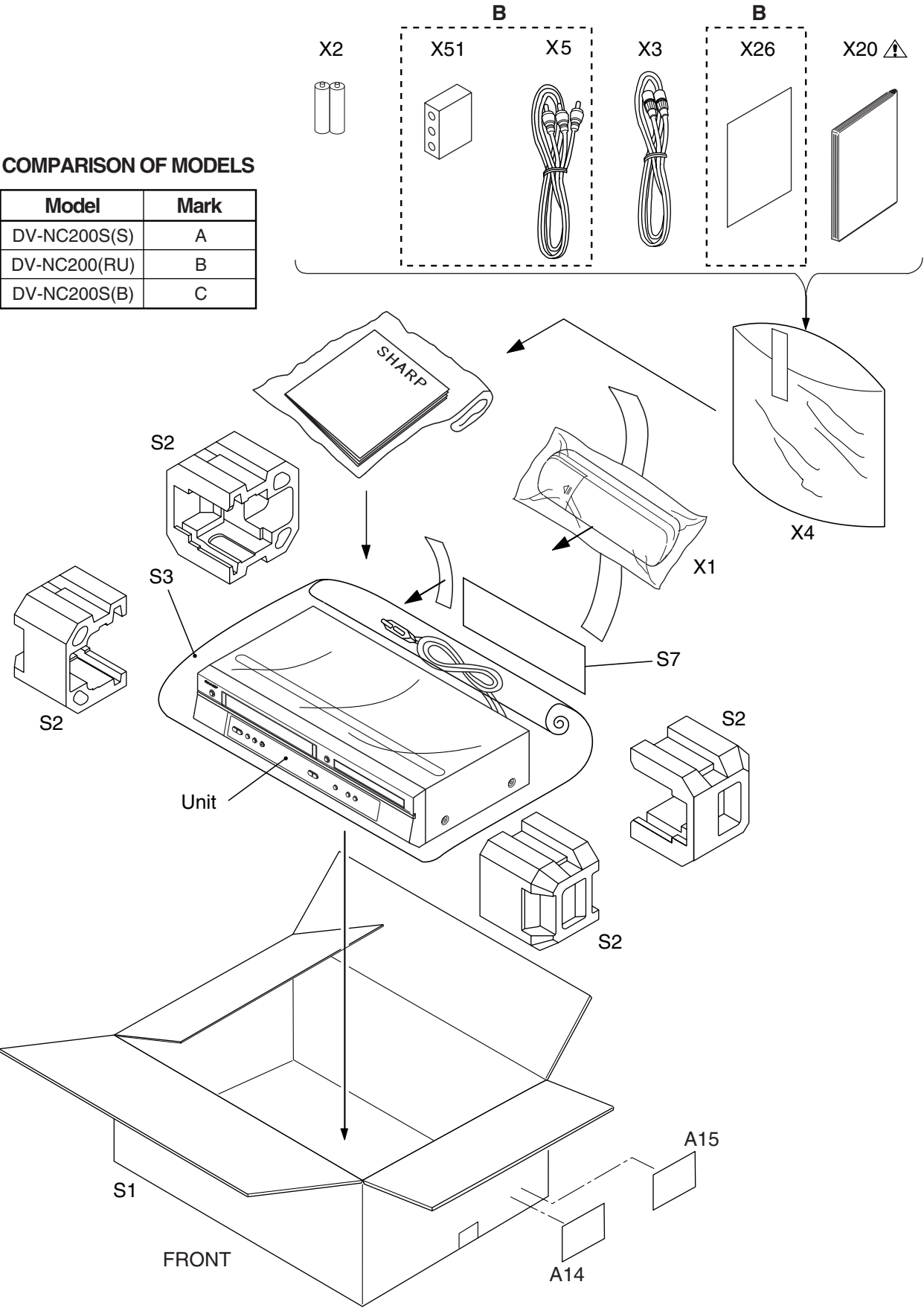
Cabinet



Packing

COMPARISON OF MODELS

Model	Mark
DV-NC200S(S)	A
DV-NC200(RU)	B
DV-NC200S(B)	C



MECHANICAL PARTS LIST

PRODUCT SAFETY NOTE: Products marked with a \triangle have special characteristics important to safety. Before replacing any of these components, read carefully the product safety notice in this service manual. Don't degrade the safety of the product through improper servicing.

COMPARISON OF MODELS

Model	Mark
DV-NC200S(S)	A
DV-NC200(RU)	B
DV-NC200S(B)	C

Ref. No.	Mark	Description	Part No.	Code
A1X		FRONT ASSEMBLY H9941ED	9HS1VM220750	AZ
A2		TOP CASE(D5 PAL FTZ) H9700ED	9HS0VM101358	AR
A3		CHASSIS H9940ED	9HS1VM220585	AT
A7		BOTTOM PANEL(D5 RESET) H9740ED	9HS1VM320242	AR
A10 \triangle	A	RATING LABEL H9941ED	-----	--
A10 \triangle	B	RATING LABEL H9943RD	-----	--
A10 \triangle	C	RATING LABEL H9949ED	-----	--
A14	A	BAR CODE LABEL H9941ED	-----	--
A14	B	BAR CODE LABEL H9943RD	-----	--
A14	C	BAR CODE LABEL H9949ED	-----	--
A15		CASE MARK LABEL E592AZD	-----	--
A22		CHASSIS FOOT H79P9JD	9HS0VM412315	AC
1B1		DECK ASSEMBLY CZD013/VM23ES	9HSN23ESFL	BP
1B2		DVD MECHA E6160(FG LESS) N79F0JVM	9HSN79F0JVM	BQ
2B2		TOP BRACKET H9700ED	9HS0VM204531	AH
2B3		RODER HOLDER H9600UD	9HS0VM306676	AB
2B5		SHEILD CYLINDER H9700ED	9HS0VM306780	AD
2B9		CUSHION HC460ED	9HS0VM413251	AA
2B16		TAPE HIMELON H9206JD	9HS0VM413956	AB
2B18		FIBER TOP CASE HC460ED	9HS0VM412906	AF
2B21 \triangle		LASER CAUTION LABEL H9900ED	-----	--
2B30		JACK PLATE H9750ED	9HS1VM420154	AB
2B40		PARTITION PLATE H9700ED	9HS0VM306765	AH
2B51		HIMELON TAPE H9640UD	9HS1VM420379	AC
2B54		PLATE GROUND(RCA) H9700ED	9HS0VM306867	AC
2B55		PLATE GROUND(21P) H9700ED	9HS0VM416444	AC
2L011		P-TIGHT SCREW 3X8 BIND +	9HSGBMP3080	AA
2L012		SCREW S-TIGHT M3X6 BIND HEAD+	9HSGBMS3060	AA
2L020		P-TIGHT SCREW 3X8 BIND +	9HSGBMP3080	AA
2L021		SCREW P-TIGHT 3X12 BIND HEAD+	9HSGBMP3120	AA
2L022		P-TIGHT SCREW 3X8 BIND +	9HSGBMP3080	AA
2L023		P-TIGHT SCREW 3X8 BIND +	9HSGBMP3080	AA
2L041		SCREW P-TIGHT 3X6 BIND HEAD+	9HSGBCP3060	AA
2L051		SCREW P-TIGHT M3X6 BIND HEAD+	9HSGBMP3060	AA
2L054		SCREW P-TIGHT M3X6 BIND HEAD+	9HSGBMP3060	AA
2L071		SCREW P-TIGHT M3X10 WASHER HEAD+	9HSGCMP3100	AA
2L091		SCREW P-TIGHT M3X8 BIND HEAD+	9HSGBCP3080	AA
L0-9		P-TIGHT SCREW 3X8 BIND +	9HSGBMP3080	AA
S1	A	GIFT BOX CARTON H9941ED	9HS1VM321110	AM
S1	B	GIFT BOX CARTON H9943RD	9HS1VM321112	AM
S1	C	GIFT BOX CARTON H9449ED	9HS1VM321117	AM
S2		STYROFOAM H9600UD	9HS0VM204474	AG
S3		UNIT BAG E5500UD	9HS0VM411683	AC
S7		REMOCON PAD H9645JD	9HS1VM420375	AK
X1	A	REMOTE CONTROL UNIT NA542ED	9HSNA542ED	AY
X1	B,C	REMOTE CONTROL UNIT NA545FD	9HSNA545FD	AY
X2		DRY BATTERY R6P/2S	9HSB0M451T0001	AE
X3		RF CORD PAL 1.2M	9HSP20122LG001	AL
X4		ACCESSORY BAG K8092BA	9HS0VM404632	AB
X5	B	AV CORD	9HSX1E56B5-001	AL
X20 \triangle	A	OWNERS MANUAL H9941ED	9HS1VMN20947	AQ
X20 \triangle	B	OWNERS MANUAL H9943RD	9HS1VMN20949	AQ

Ref. No.	Mark	Description	Part No.	Code
X20 [△]	C	OWNERS MANUAL H9949ED	9HS1VMN20954	AQ
X26	B	WARRANTY CARD E56H7RD	9HS0VM305864	AD
X51	B	RCA PIN JACK(OUT) RJ-1135B*15-0300L	9HSYRS050JD001	AN

Test Tape

Ref. No.	Mark	Description	Part No.	Code
		Test Tape	9HSFL6A	BX
		Test Tape	9HSFL6HA	BX
		Test Tape	9HSFL6NS8	BX
		Test Tape	9HSFL6M	BX
		Test Tape	9HSFL6K	BX

ELECTRICAL PARTS LIST

PRODUCT SAFETY NOTE: Products marked with a \triangle have special characteristics important to safety. Before replacing any of these components, read carefully the product safety notice in this service manual. Don't degrade the safety of the product through improper servicing.

NOTES:

1. Parts that not assigned part numbers (-----) are not available.
2. Tolerance of Capacitors and Resistors are noted with the following symbols.

C..... $\pm 0.25\%$ D..... $\pm 0.5\%$ F..... $\pm 1\%$ G..... $\pm 2\%$ J..... $\pm 5\%$ K..... $\pm 10\%$
M..... $\pm 20\%$ N..... $\pm 30\%$ Z..... $+80/-20\%$

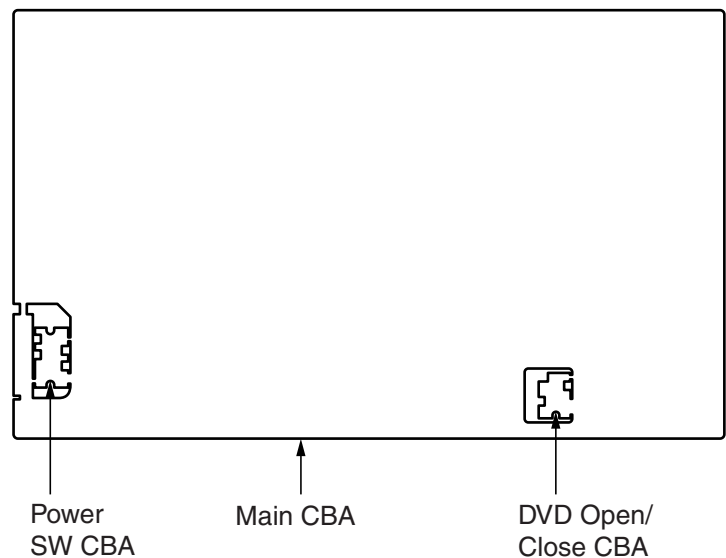
Separable CBAs

Main CBA + Power SW CBA + DVD Open/Close CBA + Sensor CBA

The Main CBA, Power SW CBA and DVD Open/Close CBA are, as shown at right, supplied as an all- in-one unit.

The Sensor CBA is supplied in the form of a set of several attached Sensor CBAs.

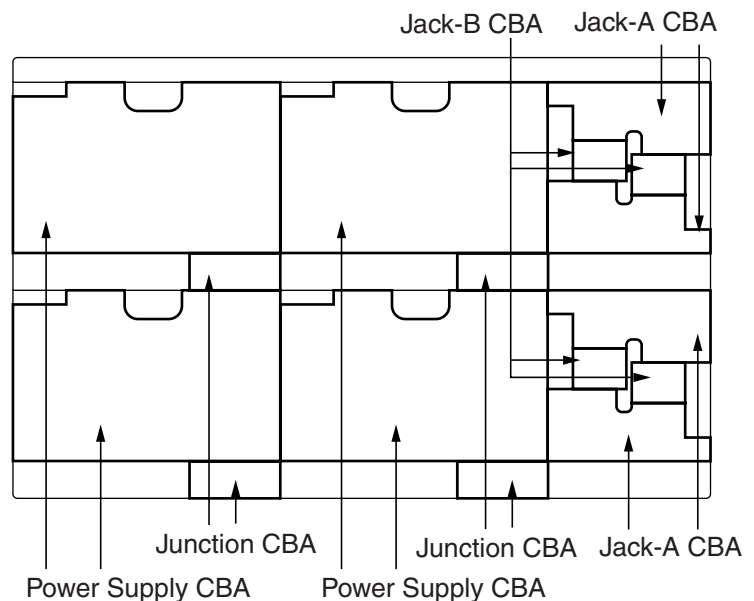
When using a single board, separate along perforation and use.



POWER SUPPLY CBA + JUNCTION CBA + JACK-A CBA + JACK-B CBA

The Power Supply CBA, Junction CBA, Jack-A CBA, and Jack-B CBA are, as shown at right, supplied as an all- in-one unit.

When using a single board, separate along perforation and use.



COMPARISON OF MODELS

Model	Mark
DV-NC200S(S)	A
DV-NC200(RU)	B
DV-NC200S(B)	C

DVD MAIN CBA UNIT

Ref. No.	Mark	Description	Part No.	Code
	A	DVD MAIN CBA UNIT	9HSN79SDJEP	BU
	B	DVD MAIN CBA UNIT	9HSN79SFJRP	BU
	C	DVD MAIN CBA UNIT	9HSN79SMJEP	BU

MAIN CBA + POWER SW CBA + DVD OPEN/CLOSE CBA + SENSOR CBA

Ref. No.	Mark	Description	Part No.	Code
	A	MAIN CBA + POWER SW CBA + DVD OPEN/CLOSE CBA + SENSOR CBA	9HS1VSA12044	BU
	B,C	MAIN CBA + POWER SW CBA + DVD OPEN/CLOSE CBA + SENSOR CBA Consists of the following	9HS1VSA12047	BU
		MAIN CBA	-----	--
		POWER SW CBA	-----	--
		DVD OPEN/CLOSE CBA	-----	--
		SENSOR CBA	9HS1VSA10047	AK

MAIN CBA

Ref. No.	Mark	Description	Part No.	Code
		MAIN CBA Consists of the following	-----	--
CAPACITORS				
C056		ELECTROLYTIC CAP. 47μF/25V M	9HSE1EMASDL470	AC
C057		ELECTROLYTIC CAP. 10μF/16V M	9HSE1CMASDL100	AB
C058		ELECTRIC DOUBLE LAYER CAP 0.022F/5.5V Z	9HSA0P223NE011	AC
C059		ELECTROLYTIC CAP. 100μF/6.3V M	9HSE0KMASDL101	AB
C062		CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V	9HSHD1JZ30F104	AA
C063		ELECTROLYTIC CAP. 47μF/16V M	9HSE1CMASDL470	AB
C104		ELECTROLYTIC CAP. 100μF/16V M	9HSE1CMASDL101	AC
C107		ELECTROLYTIC CAP. 470μF/6.3V M	9HSE0KMASDL471	AB
C109		CHIP CERAMIC CAP.(1608) CH J 470pF/50V	9HSHD1JJ3CH471	AB
C112		CHIP CERAMIC CAP.(1608) CH J 470pF/50V	9HSHD1JJ3CH471	AB
C113		CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V	9HSHD1JZ30F104	AA
C114		CHIP CERAMIC CAP.(1608) B K 1000pF/50V	9HSHD1JK30B102	AA
C116		CHIP CERAMIC CAP. B K 2200pF/50V	9HSHD1JK30B222	AA
C117		ELECTROLYTIC CAP. 1μF/50V M	9HSE1JMASDL1R0	AB
C118		CHIP CERAMIC CAP. B K 2200pF/50V	9HSHD1JK30B222	AA
C121		ELECTROLYTIC CAP. 1μF/50V M H7	9HSE1JMAVSL1R0	AB
C122		ELECTROLYTIC CAP. 1μF/50V M H7	9HSE1JMAVSL1R0	AB
C123		ELECTROLYTIC CAP. 1μF/50V M H7	9HSE1JMAVSL1R0	AB
C124		ELECTROLYTIC CAP. 470μF/6.3V M	9HSE0KMASDL471	AB
C125		ELECTROLYTIC CAP. 470μF/6.3V M	9HSE0KMASDL471	AB
C126		ELECTROLYTIC CAP. 470μF/6.3V M	9HSE0KMASDL471	AB
C127		ELECTROLYTIC CAP. 10μF/16V M	9HSE1CMASDL100	AB
C128		ELECTROLYTIC CAP. 22μF/6.3V M H7	9HSE0KMASSL220	AB
C133		CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V	9HSHD1JZ30F104	AA
C135		CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	9HSHD1JK30B103	AA
C136		ELECTROLYTIC CAP. 100μF/6.3V M H7	9HSE0KMASSL101	AB
C251		ELECTROLYTIC CAP. 10μF/16V M H7	9HSE1CMAVSL100	AB
C252		CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V	9HSHD1JZ30F104	AA
C253		CHIP CERAMIC CAP.(1608) B K 1000pF/50V	9HSHD1JK30B102	AA
C254		ELECTROLYTIC CAP. 1μF/50V M H7	9HSE1JMAVSL1R0	AB
C301		CHIP CERAMIC CAP.(1608) B K 0.022μF/50V	9HSHD1JK30B223	AB
C302		ELECTROLYTIC CAP. 1μF/50V M H7	9HSE1JMAVSL1R0	AB
C303		CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V	9HSHD1JZ30F104	AA
C305		ELECTROLYTIC CAP. 1μF/50V M H7	9HSE1JMAVSL1R0	AB

Ref. No.	Mark	Description	Part No.	Code
C306		CHIP CERAMIC CAP.(1608) B K 0.047μF/50V	9HSHD1JK30B473	AA
C307		CHIP CERAMIC CAP.(1608) B K 0.022μF/50V	9HSHD1JK30B223	AB
C308		CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V	9HSHD1JZ30F104	AA
C309		CHIP CERAMIC CAP.(1608) CH J 68pF/50V	9HSHD1JJ3CH680	AA
C310		CHIP CERAMIC CAP.(1608) CH J 68pF/50V	9HSHD1JJ3CH680	AA
C311		CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V	9HSHD1JZ30F104	AA
C312		ELECTROLYTIC CAP. 10μF/16V M H7	9HSE1CMAVSL100	AB
C313		ELECTROLYTIC CAP. 1μF/50V M H7	9HSE1JMAVSL1R0	AC
C314		CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	9HSHD1JK30B103	AA
C315		CHIP CERAMIC CAP.(1608) B K 0.047μF/50V	9HSHD1JK30B473	AA
C316		ELECTROLYTIC CAP. 1μF/50V M H7	9HSE1JMAVSL1R0	AB
C317		CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V	9HSHD1JZ30F104	AA
C318	B,C	CHIP CERAMIC CAP.(1608) B K 0.022μF/50V	9HSHD1JK30B223	AB
C319		CHIP CERAMIC CAP.(1608) CH J 68pF/50V	9HSHD1JJ3CH680	AA
C320		CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V	9HSHD1JZ30F104	AA
C321		CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V	9HSHD1JZ30F104	AA
C322		CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V	9HSHD1JZ30F104	AA
C323		CHIP CERAMIC CAP.(1608) CH J 68pF/50V	9HSHD1JJ3CH680	AA
C324		CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	9HSHD1JK30B103	AA
C325		CHIP CERAMIC CAP. B K 8200pF/50V	9HSHD1JK30B822	AA
C326		CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V	9HSHD1JZ30F104	AA
C328		ELECTROLYTIC CAP. 47μF/6.3V M H7	9HSE0KMAVSL470	AB
C329		CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V	9HSHD1JZ30F104	AA
C331		ELECTROLYTIC CAP. 47μF/6.3V M H7	9HSE0KMAVSL470	AB
C333		CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V	9HSHD1JZ30F104	AA
C334		ELECTROLYTIC CAP. 1μF/50V M H7	9HSE1JMAVSL1R0	AB
C335		ELECTROLYTIC CAP. 100μF/6.3V H7	9HSE0KMAVSL101	AB
C336		CHIP CERAMIC CAP. CH J 220pF/50V	9HSHD1JJ3CH221	AA
C337		CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V	9HSHD1JZ30F104	AA
C339		CHIP CERAMIC CAP. CH J 120pF/50V	9HSHD1JJ3CH121	AA
C340		ELECTROLYTIC CAP. 1μF/50V M H7	9HSE1JMAVSL1R0	AB
C341		CHIP CERAMIC CAP.(1608) CH D 10pF/50V	9HSHD1JD3CH100	AA
C342		CHIP CERAMIC CAP.(1608) B K 1000pF/50V	9HSHD1JK30B102	AA
C343		ELECTROLYTIC CAP. 10μF/16V M H7	9HSE1CMAVSL100	AB
C344		ELECTROLYTIC CAP. 4.7μF/25V M NP H7	9HSP1EMAVSB4R7	AB
C345		ELECTROLYTIC CAP. 0.47μF/50V M H7	9HSE1JMAVSLR47	AC
C346		CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V	9HSHD1JZ30F104	AA
C347		CHIP CERAMIC CAP.(1608) B K 0.1μF/25V	9HSHD1EK30B104	AB
C349		ELECTROLYTIC CAP. 0.47μF/50V M H7	9HSE1JMAVSLR47	AC
C350		CERAMIC CAP.(AX) F Z 0.1μF/25V	9HSCA1JZTFZ104	AB
C402		FILM CAP.(P) 0.018μF/50V J	9HSMA1JJP00183	AB
C403		CERAMIC CAP. B K 470pF/100V	9HSCD2AKS0B471	AA
C404		ELECTROLYTIC CAP. 220μF/6.3V M H7	9HSE0KMAVSL221	AB
C405		ELECTROLYTIC CAP. 47μF/6.3V M H7	9HSE0KMAVSL470	AB
C407		CHIP CERAMIC CAP.(1608) B K 1000pF/50V	9HSHD1JK30B102	AA
C408		CHIP CERAMIC CAP. B K 1800pF/50V	9HSHD1JK30B182	AA
C409		CHIP CERAMIC CAP.(1608) CH J 33pF/50V	9HSHD1JJ3CH330	AA
C410		ELECTROLYTIC CAP. 10μF/16V M H7	9HSE1CMAVSL100	AB
C411		CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	9HSHD1JK30B103	AA
C412		ELECTROLYTIC CAP. 33μF/6.3V M H7	9HSE0KMAVSL330	AB
C413		CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V	9HSHD1JZ30F104	AA
C414		CHIP CERAMIC CAP.(1608) B K 0.022μF/50V	9HSHD1JK30B223	AB
C415		ELECTROLYTIC CAP. 4.7μF/25V M H7	9HSE1EMAVSL4R7	AB
C416		CHIP CERAMIC CAP.(1608) B K 4700pF/50V	9HSHD1JK30B472	AA
C417		ELECTROLYTIC CAP. 22μF/6.3V M H7	9HSE0KMAVSL220	AB
C418		CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V	9HSHD1JZ30F104	AA
C419		CHIP CERAMIC CAP. CH J 220pF/50V	9HSHD1JJ3CH221	AA
C421		ELECTROLYTIC CAP. 47μF/6.3V M H7	9HSE0KMAVSL470	AB
C451		CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V	9HSHD1JZ30F104	AA
C452		ELECTROLYTIC CAP. 10μF/16V M H7	9HSE1CMAVSL100	AB
C453		ELECTROLYTIC CAP. 22μF/10V M H7	9HSE1AMAVSL220	AB
C454		CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V	9HSHD1JZ30F104	AA
C455		CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V	9HSHD1JZ30F104	AA
C456		ELECTROLYTIC CAP. 10μF/16V M H7	9HSE1CMAVSL100	AB
C457		ELECTROLYTIC CAP. 4.7μF/25V M H7	9HSE1EMAVSL4R7	AB
C458		CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	9HSHD1JK30B103	AA
C461		CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	9HSHD1JK30B103	AA
C462		CHIP CERAMIC CAP.(1608) B K 4700pF/50V	9HSHD1JK30B472	AA
C463		ELECTROLYTIC CAP. 22μF/10V M H7	9HSE1AMAVSL220	AB

Ref. No.	Mark	Description	Part No.	Code
C464		CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	9HSHD1JK30B103	AA
C465		ELECTROLYTIC CAP. 10μF/16V M H7	9HSE1CMAVSL100	AB
C466		CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V	9HSHD1JZ30F104	AA
C467		CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V	9HSHD1JZ30F104	AA
C468		ELECTROLYTIC CAP. 220μF/6.3V M H7	9HSE0KMAVSL221	AB
C469		ELECTROLYTIC CAP. 22μF/10V M H7	9HSE1AMAVSL220	AB
C470		CHIP CERAMIC CAP.(1608) B K 4700pF/50V	9HSHD1JK30B472	AA
C471		CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	9HSHD1JK30B103	AA
C472		ELECTROLYTIC CAP. 4.7μF/25V M H7	9HSE1EMAVSL4R7	AB
C473		ELECTROLYTIC CAP. 10μF/16V M H7	9HSE1CMAVSL100	AB
C474		CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V	9HSHD1JZ30F104	AA
C475		CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V	9HSHD1JZ30F104	AA
C476		ELECTROLYTIC CAP. 22μF/6.3V M H7	9HSE0KMAVSL220	AB
C477		CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V	9HSHD1JZ30F104	AA
C478		CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V	9HSHD1JZ30F104	AA
C479		ELECTROLYTIC CAP. 10μF/16V M H7	9HSE1CMAVSL100	AB
C480		ELECTROLYTIC CAP. 4.7μF/25V M H7	9HSE1EMAVSL4R7	AB
C481		ELECTROLYTIC CAP. 4.7μF/25V M H7	9HSE1EMAVSL4R7	AB
C482		CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V	9HSHD1JZ30F104	AA
C483		ELECTROLYTIC CAP. 4.7μF/25V M H7	9HSE1EMAVSL4R7	AB
C484		ELECTROLYTIC CAP. 4.7μF/25V M H7	9HSE1EMAVSL4R7	AB
C485		ELECTROLYTIC CAP. 10μF/16V M H7	9HSE1CMAVSL100	AB
C486		CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V	9HSHD1JZ30F104	AA
C487		ELECTROLYTIC CAP. 47μF/16V M H7	9HSE1CMAVSL470	AC
C488		CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V	9HSHD1JZ30F104	AA
C502		CHIP CERAMIC CAP.(1608) B K 0.022μF/50V	9HSHD1JK30B223	AB
C505		CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	9HSHD1JK30B103	AA
C506		ELECTROLYTIC CAP. 220μF/6.3V M H7	9HSE0KMAVSL221	AB
C507		CHIP CERAMIC CAP.(1608) B K 1000pF/50V	9HSHD1JK30B102	AA
C508		CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V	9HSHD1JZ30F104	AA
C509		CHIP CERAMIC CAP.(1608) B K 1000pF/50V	9HSHD1JK30B102	AA
C510		CHIP CERAMIC CAP.(1608) B K 4700pF/50V	9HSHD1JK30B472	AA
C511		CHIP CERAMIC CAP.(1608) CH J 100pF/50V	9HSHD1JJ3CH101	AA
C512		CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	9HSHD1JK30B103	AA
C514		CHIP CERAMIC CAP. CH J 330pF/50V	9HSHD1JJ3CH331	AA
C515		CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V	9HSHD1JZ30F104	AA
C516		ELECTROLYTIC CAP. 22μF/6.3V M H7	9HSE0KMAVSL220	AB
C517		CHIP CERAMIC CAP.(1608) B K 0.022μF/50V	9HSHD1JK30B223	AB
C518		ELECTROLYTIC CAP. 22μF/6.3V M H7	9HSE0KMAVSL220	AB
C519		CHIP CERAMIC CAP. CH J 560pF/50V	9HSHD1JJ3CH561	AA
C521		ELECTROLYTIC CAP. 22μF/6.3V M H7	9HSE0KMAVSL220	AB
C522		CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	9HSHD1JK30B103	AA
C524		CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	9HSHD1JK30B103	AA
C527		CERAMIC CAP.(AX) B K 100pF/50V	9HSCA1JKT0B101	AB
C530		CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V	9HSHD1JZ30F104	AA
C531		CHIP CERAMIC CAP.(1608) B K 4700pF/50V	9HSHD1JK30B472	AA
C533		CHIP CERAMIC CAP.(1608) B K 0.047μF/50V	9HSHD1JK30B473	AA
C534		ELECTROLYTIC CAP. 47μF/6.3V M H7	9HSE0KMAVSL470	AB
C535		CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V	9HSHD1JZ30F104	AA
C536	B,C	CHIP CERAMIC CAP. CH J 560pF/50V	9HSHD1JJ3CH561	AA
C538		CHIP CERAMIC CAP. CH J 180pF/50V	9HSHD1JJ3CH181	AA
C539		CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	9HSHD1JK30B103	AA
C540		CHIP CERAMIC CAP.(1608) B K 4700pF/50V	9HSHD1JK30B472	AA
C541		CHIP CERAMIC CAP. CH J 18pF/50V	9HSHD1JJ3CH180	AA
C542		CHIP CERAMIC CAP. CH J 18pF/50V	9HSHD1JJ3CH180	AA
C543		CHIP CERAMIC CAP. CH J 27pF/50V	9HSHD1JJ3CH270	AB
C544		CHIP CERAMIC CAP.(1608) CH J 22pF/50V	9HSHD1JJ3CH220	AB
C545		CHIP CERAMIC CAP.(1608) CH J 22pF/50V	9HSHD1JJ3CH220	AB
C546		CHIP CERAMIC CAP.(1608) CH J 22pF/50V	9HSHD1JJ3CH220	AB
C547		CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	9HSHD1JK30B103	AA
C548		CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V	9HSHD1JZ30F104	AA
C549		ELECTROLYTIC CAP. 1μF/50V M H7	9HSE1JMAVSL1R0	AB
C550		ELECTROLYTIC CAP. 100μF/6.3V H7	9HSE0KMAVSL101	AB
C553		ELECTROLYTIC CAP. 22μF/10V M H7	9HSE1AMAVSL220	AB
C555		CHIP CERAMIC CAP.(1608) B K 0.1μF/25V	9HSHD1EK30B104	AB
C612		CHIP CERAMIC CAP.(1608) B K 4700pF/50V	9HSHD1JK30B472	AA
C614		CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V	9HSHD1JZ30F104	AA
C615		ELECTROLYTIC CAP. 100μF/6.3V M H7	9HSE0KMAVSL101	AB
C631	A	CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V	9HSHD1JZ30F104	AA

Ref. No.	Mark	Description	Part No.	Code
C632	A	ELECTROLYTIC CAP. 1μF/50V M H7 NP	9HSP1JMAVSB1R0	AB
C633	A	ELECTROLYTIC CAP. 1μF/50V M H7	9HSE1JMAVSL1R0	AB
C634	A	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	9HSHD1JK30B103	AA
C635	A	SEMICONDUCTOR CAP. SR K 0.018μF/25V	9HSDA1EKPOX183	AC
C636	A	ELECTROLYTIC CAP. 4.7μF/25V M H7	9HSE1EMAVSL4R7	AB
C637	A	ELECTROLYTIC CAP. 47μF/6.3V M H7	9HSE0KMAVSL470	AB
C703		CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V	9HSHD1JZ30F104	AA
C704		CERAMIC CAP.(AX) SL J 39pF/50V	9HSCA1JJTSL390	AB
C709		CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	9HSHD1JK30B103	AA
C711		CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	9HSHD1JK30B103	AA
C712		CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V	9HSHD1JZ30F104	AA
C715		CHIP CERAMIC CAP. F Z 0.22μF/16V	9HSHD1CZ30F224	AA
C716		CHIP CERAMIC CAP. F Z 0.22μF/16V	9HSHD1CZ30F224	AA
C751		CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	9HSHD1JK30B103	AA
C752		ELECTROLYTIC CAP. 47μF/10V M	9HSE1AMASDL470	AB
C753		ELECTROLYTIC CAP. 4.7μF/50V M	9HSE1JMASDL4R7	AB
C754		ELECTROLYTIC CAP. 4.7μF/50V M H7	9HSE1JMASSL4R7	AC
C755		CHIP CERAMIC CAP. B K 2200pF/50V	9HSHD1JK30B222	AA
C756		CHIP CERAMIC CAP. B K 2200pF/50V	9HSHD1JK30B222	AA
C757		ELECTROLYTIC CAP. 47μF/6.3V M H7	9HSE0KMASSL470	AC
C758		CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	9HSHD1JK30B103	AA
C783		CHIP CERAMIC CAP.(1608) CH J 470pF/50V	9HSHD1JJ3CH471	AB
C784		CHIP CERAMIC CAP.(1608) CH J 470pF/50V	9HSHD1JJ3CH471	AB
C1036		CHIP CERAMIC CAP.(1608) B K 1μF/10V	9HSHD1AK30B105	AC
C1039		CHIP CERAMIC CAP.(1608) B K 0.33μF/10V	9HSHD1AK30B334	AC
C1040		ELECTROLYTIC CAP. 100μF/6.3V M	9HSE0KMASDL101	AB
C1042		ELECTROLYTIC CAP. 470μF/6.3V M	9HSE0KMASDL471	AB
C1050		CHIP CERAMIC CAP.(1608) B K 0.33μF/10V	9HSHD1AK30B334	AC
C1051		CHIP CERAMIC CAP.(1608) B K 0.33μF/10V	9HSHD1AK30B334	AC
C1056		CHIP CERAMIC CAP.(1608) B K 1000pF/50V	9HSHD1JK30B102	AA
C1201		ELECTROLYTIC CAP. 10μF/16V M H7	9HSE1CMASDL100	AC
C1202		ELECTROLYTIC CAP. 10μF/16V M H7	9HSE1CMASDL100	AC
C1205		CHIP CERAMIC CAP. CH J 220pF/50V	9HSHD1JJ3CH221	AA
C1206		CHIP CERAMIC CAP. CH J 220pF/50V	9HSHD1JJ3CH221	AA
C1207		CHIP CERAMIC CAP.(1608) CH J 47pF/50V	9HSHD1JJ3CH470	AA
C1208		CHIP CERAMIC CAP.(1608) CH J 47pF/50V	9HSHD1JJ3CH470	AA
C1221		ELECTROLYTIC CAP. 10μF/16V M	9HSE1CMASDL100	AB
C1222		ELECTROLYTIC CAP. 10μF/16V M	9HSE1CMASDL100	AB
C1245		CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V	9HSHD1JZ30F104	AA
C1246		CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V	9HSHD1JZ30F104	AA
C1247		ELECTROLYTIC CAP. 470μF/16V M	9HSE1CMASDL471	AB
C1249		ELECTROLYTIC CAP. 47μF/16V M	9HSE1CMASDL470	AB
C1353		CHIP CERAMIC CAP.(1608) B K 0.1μF/25V	9HSHD1EK30B104	AB
C1354		CHIP CERAMIC CAP.(1608) CH J 100pF/50V	9HSHD1JJ3CH101	AA
C1355		CHIP CERAMIC CAP. F Z 1μF/10V	9HSHD1AZB0F105	AA
C1359		CHIP CERAMIC CAP. CH D 9pF/50V	9HSHD1JD3CH9R0	AA
C1393		ELECTROLYTIC CAP. 470μF/6.3V M	9HSE0KMASDL471	AB
C1394		ELECTROLYTIC CAP. 47μF/6.3V M	9HSE0KMASDL470	AB
C1421		CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	9HSHD1JK30B103	AA
C1422		CHIP CERAMIC CAP.(1608) B K 0.1μF/25V	9HSHD1EK30B104	AB
C1441		CHIP CERAMIC CAP.(1608) B K 0.33μF/10V	9HSHD1AK30B334	AC
C1442		ELECTROLYTIC CAP. 470μF/6.3V M	9HSE0KMASDL471	AB
C1445		ELECTROLYTIC CAP. 470μF/6.3V M	9HSE0KMASDL471	AB
C1461		ELECTROLYTIC CAP. 1μF/50V M	9HSE1JMASDL1R0	AB
C1462		ELECTROLYTIC CAP. 470μF/6.3V M	9HSE0KMASDL471	AB
C1471		ELECTROLYTIC CAP. 1μF/50V M	9HSE1JMASDL1R0	AB
C1481		ELECTROLYTIC CAP. 1μF/50V M	9HSE1JMASDL1R0	AB
C1482		ELECTROLYTIC CAP. 470μF/6.3V M	9HSE0KMASDL471	AB
C1523		CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V	9HSHD1JZ30F104	AA
C1524		ELECTROLYTIC CAP. 100μF/6.3V M	9HSE0KMASDL101	AB
C1531		CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	9HSHD1JK30B103	AA
C1532		ELECTROLYTIC CAP. 22μF/6.3V M H7	9HSE0KMAVSL220	AB
C1535		CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	9HSHD1JK30B103	AA
C1536		ELECTROLYTIC CAP. 22μF/6.3V M	9HSE0KMASDL220	AA
C2002		CHIP CERAMIC CAP.(1608) B K 1000pF/50V	9HSHD1JK30B102	AA
C2004		ELECTROLYTIC CAP. 100μF/6.3V M H7	9HSE0KMASSL101	AB
C2012		CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V	9HSHD1JZ30F104	AA
CONNECTORS				
CN051		242 SERIES CONNECTOR 224202117W1	9HS322C17TG001	AD

Ref. No.	Mark	Description	Part No.	Code
CN701		AFV PCB ASSEMBLY H9901BD	9HSH9901AFV	AW
DIODES				
D051		RECTIFIER DIODE 1N4005	9HSDQZ001N4005	AB
D052		RECTIFIER DIODE 1N4005	9HSDQZ001N4005	AB
D054		ZENER DIODE DZ-10BSBT265	9HSDTB00DZ10BS	AB
D056		ZENER DIODE DZ-18BSBT265	9HSDTB00DZ18BS	AB
D057		RECTIFIER DIODE 1N4005	9HSDQZ001N4005	AB
D058		ZENER DIODE MTZJT-774.3C	9HSDTC0MTZJ4R3	AB
D101		ZENER DIODE DZ-11BSAT265	9HSDTA00DZ11BS	AB
D102		ZENER DIODE DZ-11BSAT265	9HSDTA00DZ11BS	AB
D103		ZENER DIODE DZ-11BSAT265	9HSDTA00DZ11BS	AB
D104		ZENER DIODE DZ-11BSAT265	9HSDTA00DZ11BS	AB
D105		ZENER DIODE DZ-11BSAT265	9HSDTA00DZ11BS	AB
D106		ZENER DIODE DZ-11BSAT265	9HSDTA00DZ11BS	AB
D107		ZENER DIODE DZ-11BSAT265	9HSDTA00DZ11BS	AB
D108		ZENER DIODE DZ-11BSAT265	9HSDTA00DZ11BS	AB
D109		ZENER DIODE DZ-11BSAT265	9HSDTA00DZ11BS	AB
D110		ZENER DIODE DZ-11BSAT265	9HSDTA00DZ11BS	AB
D111		ZENER DIODE DZ-5.1BSCT265	9HSDTC0DZ5R1BS	AB
D115		ZENER DIODE DZ-11BSAT265	9HSDTA00DZ11BS	AB
D118		ZENER DIODE DZ-11BSAT265	9HSDTA00DZ11BS	AB
D119		ZENER DIODE DZ-11BSAT265	9HSDTA00DZ11BS	AB
D121		ZENER DIODE DZ-11BSAT265	9HSDTA00DZ11BS	AB
D301		SWITCHING DIODE 1N4148M	9HSDTZ01N4148M	AA
D501		LED(RED) 204HD/E	9HSPQZ00204HDE	AB
D502		LED(GREEN) 204-10GD/S957	9HSPQZ10GDS957	AB
D503		LED(GREEN) 204-10GD/S957	9HSPQZ10GDS957	AB
D504		LED(RED) 204HD/E	9HSPQZ00204HDE	AB
D510		SWITCHING DIODE 1N4148M	9HSDTZ01N4148M	AA
D511		ZENER DIODE DZ-7.5BSAT265	9HSDTA0DZ7R5BS	AB
D512		SWITCHING DIODE 1N4148M	9HSDTZ01N4148M	AA
D555		LED MIE-534A2	9HSPZZM1E534A2	AC
D612		PCB JUMPER D0.6-P5.0	-----	--
D613		PCB JUMPER D0.6-P5.0	-----	--
D701		ZENER DIODE DZ-33BSDT265	9HSDTD00DZ33BS	AB
D1052		RECTIFIER DIODE 1N4005	9HSDQZ001N4005	AB
D1053		RECTIFIER DIODE 1N4005	9HSDQZ001N4005	AB
D1054		RECTIFIER DIODE 1N4005	9HSDQZ001N4005	AB
D1057		RECTIFIER DIODE 1N4005	9HSDQZ001N4005	AB
D1301		ZENER DIODE DZ-5.6BSBT265	9HSDTB0DZ5R6BS	AB
ICs				
IC101		IC ANALOG MULTIPLEXER CD4053BNSR	9HSSZBA0TTY093	AE
IC102		DRIVER FOR DVD MM1637XVBE	9HSSZBA0TMM102	AK
IC301		IC Y/C/A LA71750EM-MPB-E	9HSSZBA0RSY020	AY
IC451		IC HIFI LA72648M-MPB-E	9HSSZBA0RSY033	AS
IC501		SYSICON IC M3776AMCH-AA5GP	9HSSZAB0RHT064	AT
IC502		IC BR24L02F-WE2	9HSSZBA0TRM068	AE
IC611		V.F.D. 7-BT-298NAM	9HSVFD150FT015	AQ
IC612		VFD DRIVER/CONTROLLER IC PT6313-S-TP(L)	9HSSZBA0TG2007	AH
IC631	A	IC VPS/PDC SLICER LC74793JM-TRM	9HSSZBA0TSY018	AP
IC751		IC ANALOG MULTIPLEXER CD4053BNSR	9HSSZBA0TTY093	AE
IC1002		VOLTAGE REGULATOR PQ1LAX95MSPQ	9HSSZBA0TSH053	AE
IC1003		VOLTAGE REGULATOR PQ1LAX95MSPQ	9HSSZBA0TSH053	AE
IC1201		IC OP AMP KIA4558P/P	9HSSZBA0SJY035	AD
IC1401		IC ANALOG MULTIPLEXER CD4053BNSR	9HSSZBA0TTY093	AE
IC1402		DRIVER FOR DVD MM1637XVBE	9HSSZBA0TMM102	AK
IC1403		DRIVER FOR DVD MM1636XWRE	9HSSZBA0TMM108	AK
IC1404		IC ANALOG MULTIPLEXER CD4053BNSR	9HSSZBA0TTY093	AE
COILS				
L053		INDUCTOR(100μH K) LAP02TA101K	9HSLAXKATTU101	AB
L101		BEAD CORE ASSEMBLY H9900ED	9HS1VSA11421	AC
L122		CHOKE COIL 47μH	9HSLBD00PKV022	AB
L251		INDUCTOR 5.6μH-K-26T	9HSLAXKATTU5R6	AB
L302		INDUCTOR(100μH K) LAP02TA101K	9HSLAXKATTU101	AB
L402		INDUCTOR 47μH-K-5FT	9HSLARKBSTU470	AB
L451		INDUCTOR 47μH-K-5FT	9HSLARKBSTU470	AB
L452		PCB JUMPER D0.6-P5.0	-----	--
L501		INDUCTOR(100μH K) LAP02TA101K	9HSLAXKATTU101	AB
L502		PCB JUMPER D0.6-P5.0	-----	--

Ref. No.	Mark	Description	Part No.	Code
L503		INDUCTOR 1.8μH-K-26T	9HSLAXKATTU1R8	AB
L701		INDUCTOR 15μH-K-26T	9HSLAXKATTU150	AC
L704		PCB JUMPER D0.6-P5.0	-----	--
L1251		INDUCTOR(0.47μH K) LAP02TAR47K	9HSLAXKATTUR47	AB
L1351		INDUCTOR(100μH K) LAP02TA101K	9HSLAXKATTU101	AB
L1521		CHOKE COIL 47μH	9HSLBD00PKV022	AB
L2001		INDUCTOR(100μH K) LAP02TA101K	9HSLAXKATTU101	AB
TRANSISTORS				
Q051		TRANSISTOR KTA1281Y-AT/P	9HSQVYKTA1281P	AD
Q052		RES. BUILT-IN TRANSISTOR KRC103M	9HSQSZ0KRC103M	AC
Q053		TRANSISTOR RN2204(TE4 F T)	9HSQSZ0RN2204F	AB
Q054		RES. BUILT-IN TRANSISTOR KRC103M	9HSQSZ0KRC103M	AC
Q055		TRANSISTOR KTC3199-Y-AT/P	9HSQSYKTC3199P	AC
Q056		TRANSISTOR KTC3205-Y-AT/P	9HSQSYKTC3205P	AC
Q057		TRANSISTOR KTC3199-Y-AT/P	9HSQSYKTC3199P	AC
Q058		TRANSISTOR KTA1267Y-AT/P	9HSQSYKTA1267P	AB
Q104		TRANSISTOR KTA-1266-GR-AT/P	9HSQS4KTA1266P	AB
Q105		CHIP TRANSISTOR KTC3879Y-RTK	9HSQ1Y0KTC3879	AK
Q302		TRANSISTOR KTC3199-Y-AT/P	9HSQSYKTC3199P	AC
Q401		CHIP TRANSISTOR RN1511(TE85R.F)	9HSQ220RN1511F	AC
Q403		TRANSISTOR KTC3203-Y-AT/P	9HSQSYKTC3203P	AB
Q404		TRANSISTOR KTA-1266-GR-AT/P	9HSQS4KTA1266P	AB
Q405		RES. BUILT-IN TRANSISTOR KRA103M	9HSQSZ0KRA103M	AC
Q406		CHIP TRANSISTOR KTC3875S-Y-RTK/P	9HSQ1YKTC3875S	AB
Q451		CHIP TRANSISTOR KRC103S RTK	9HSQ1Z0KRC103S	AB
Q502		TRANSISTOR KTA-1266-GR-AT/P	9HSQS4KTA1266P	AB
Q506		PHOTO TRANSISTOR PT204-6B-12	9HSPWZT2046B12	AC
Q507		TRANSISTOR KTC3199-Y-AT/P	9HSQSYKTC3199P	AC
Q508		TRANSISTOR KTC3199-Y-AT/P	9HSQSYKTC3199P	AC
Q509		TRANSISTOR KTC3199-Y-AT/P	9HSQSYKTC3199P	AC
Q511		TRANSISTOR KTA-1266-GR-AT/P	9HSQS4KTA1266P	AB
Q513		RES. BUILT-IN TRANSISTOR KRC103M	9HSQSZ0KRC103M	AC
Q514		TRANSISTOR KTC3199-BL-AT/P	9HSQS5KTC3199P	AC
Q515		TRANSISTOR KTC3199-BL-AT/P	9HSQS5KTC3199P	AC
Q753		TRANSISTOR KTC3199-Y-AT/P	9HSQSYKTC3199P	AC
Q754		TRANSISTOR KTC3199-Y-AT/P	9HSQSYKTC3199P	AC
Q1052		TRANSISTOR KTC3203-Y-AT/P	9HSQSYKTC3203P	AB
Q1053		TRANSISTOR KTA1267Y-AT/P	9HSQSYKTA1267P	AB
Q1054		TRANSISTOR KTC3199-Y-AT/P	9HSQSYKTC3199P	AC
Q1055		TRANSISTOR KTC3203-Y-AT/P	9HSQSYKTC3203P	AB
Q1204		TRANSISTOR KTA-1266-GR-AT/P	9HSQS4KTA1266P	AB
Q1351		TRANSISTOR KTC3199-Y-AT/P	9HSQSYKTC3199P	AC
Q1352		TRANSISTOR KTC3199-Y-AT/P	9HSQSYKTC3199P	AC
Q1401		CHIP TRANSISTOR KRC103S RTK	9HSQ1Z0KRC103S	AB
Q1402		CHIP TRANSISTOR KRC103S RTK	9HSQ1Z0KRC103S	AB
Q1501		CHIP TRANSISTOR KRC103S RTK	9HSQ1Z0KRC103S	AB
Q1502		CHIP TRANSISTOR KRC103S RTK	9HSQ1Z0KRC103S	AB
Q1503		CHIP TRANSISTOR KTC3875S-Y-RTK/P	9HSQ1YKTC3875S	AB
Q2011		CHIP TRANSISTOR KRC103S RTK	9HSQ1Z0KRC103S	AB
RESISTORS				
R050		CHIP RES.(1608) 1/10W J 3.9k Ω	9HSRXAJR5Z0392	AA
R051		CHIP RES.(1608) 1/10W J 47k Ω	9HSRXAJR5Z0473	AA
R052		CARBON RES. 1/4W J 680 Ω	9HSCX4JATZ0681	AA
R053		CARBON RES. 1/4W J 680 Ω	9HSCX4JATZ0681	AA
R054		CHIP RES.(1608) 1/10W J 22k Ω	9HSRXAJR5Z0223	AA
R055		CARBON RES. 1/4W J 10k Ω	9HSCX4JATZ0103	AA
R056		CHIP RES.(1608) 1/10W J 1 Ω	9HSRXAJR5Z01R0	AA
R058		CARBON RES. 1/4W J 1.2k Ω	9HSCX4JATZ0122	AA
R059		CARBON RES. 1/4W J 1.2k Ω	9HSCX4JATZ0122	AA
R060		CARBON RES. 1/4W J 1.2k Ω	9HSCX4JATZ0122	AA
R061		CARBON RES. 1/4W J 8.2k Ω	9HSCX4JATZ0822	AA
R062		CHIP RES.(1608) 1/10W J 180 Ω	9HSRXAJR5Z0181	AA
R063		CHIP RES.(1608) 1/10W J 47k Ω	9HSRXAJR5Z0473	AA
R064		CARBON RES. 1/4W J 8.2k Ω	9HSCX4JATZ0822	AA
R065		CHIP RES.(1608) 1/10W J 4.7k Ω	9HSRXAJR5Z0472	AA
R067		CHIP RES.(1608) 1/10W J 470 Ω	9HSRXAJR5Z0471	AA
R070		CARBON RES. 1/6W J 4.7k Ω	9HSCX6JATZ0472	AA
R072		CARBON RES. 1/6W J 0.47 Ω	9HSCX6JATZ0R47	AA
R112		CHIP RES.(1608) 1/10W J 220 Ω	9HSRXAJR5Z0221	AA

Ref. No.	Mark	Description	Part No.	Code
R113		CARBON RES. 1/4W J 680 Ω	9HSCX4JATZ0681	AA
R116		CARBON RES. 1/4W J 560 Ω	9HSCX4JATZ0561	AA
R119		CARBON RES. 1/4W J 68 Ω	9HSCX4JATZ0680	AA
R121		CARBON RES. 1/6W J 15k Ω	9HSCX6JATZ0153	AA
R122		CHIP RES.(1608) 1/10W J 10k Ω	9HSRXAJR5Z0103	AA
R124		CARBON RES. 1/6W J 4.7k Ω	9HSCX6JATZ0472	AA
R127		CHIP RES.(1608) 1/10W J 6.8k Ω	9HSRXAJR5Z0682	AA
R128		CHIP RES.(1608) 1/10W J 75 Ω	9HSRXAJR5Z0750	AA
R129		CARBON RES. 1/4W J 470 Ω	9HSCX4JATZ0471	AA
R130		CARBON RES. 1/6W J 4.7k Ω	9HSCX6JATZ0472	AA
R131		CARBON RES. 1/4W J 470 Ω	9HSCX4JATZ0471	AA
R135		CHIP RES.(1608) 1/10W J 2.2k Ω	9HSRXAJR5Z0222	AA
R136		CARBON RES. 1/4W J 75 Ω	9HSCX4JATZ0750	AA
R137		CARBON RES. 1/4W J 75 Ω	9HSCX4JATZ0750	AA
R138		CARBON RES. 1/4W J 75 Ω	9HSCX4JATZ0750	AA
R140		CHIP RES.(1608) 1/10W J 22k Ω	9HSRXAJR5Z0223	AA
R251		CHIP RES.(1608) 1/10W J 39k Ω	9HSRXAJR5Z0393	AA
R252		CHIP RES.(1608) 1/10W J 2.2k Ω	9HSRXAJR5Z0222	AA
R301		CHIP RES.(1608) 1/10W J 1.2k Ω	9HSRXAJR5Z0122	AA
R303		CHIP RES.(1608) 1/10W J 5.6k Ω	9HSRXAJR5Z0562	AA
R305		CHIP RES.(1608) 1/10W J 10k Ω	9HSRXAJR5Z0103	AA
R306		CHIP RES.(1608) 1/10W J 5.6M Ω	9HSRXAJR5Z0565	AA
R307		CARBON RES. 1/6W J 33 Ω	9HSCX6JATZ0330	AA
R308	B,C	CHIP RES.(1608) 1/10W J 3.9k Ω	9HSRXAJR5Z0392	AA
R310		CARBON RES. 1/6W J 33 Ω	9HSCX6JATZ0330	AA
R311		CHIP RES.(1608) 1/10W J 75 Ω	9HSRXAJR5Z0750	AA
R312	B,C	CHIP RES.(1608) 1/10W J 5.6k Ω	9HSRXAJR5Z0562	AA
R314		CHIP RES.(1608) 1/10W J 3.9k Ω	9HSRXAJR5Z0392	AA
R316		CHIP RES.(1608) 1/10W J 1.8k Ω	9HSRXAJR5Z0182	AA
R319		CHIP RES.(1608) 1/10W J 1k Ω	9HSRXAJR5Z0102	AA
R320		CHIP RES.(1608) 1/10W J 47k Ω	9HSRXAJR5Z0473	AA
R321		CHIP RES.(1608) 1/10W J 470 Ω	9HSRXAJR5Z0471	AA
R322		CHIP RES.(1608) 1/10W J 10k Ω	9HSRXAJR5Z0103	AA
R323		CHIP RES.(1608) 1/10W J 1.2k Ω	9HSRXAJR5Z0122	AA
R324		CHIP RES.(1608) 1/10W J 1k Ω	9HSRXAJR5Z0102	AA
R325		CHIP RES.(1608) 1/10W J 1.2k Ω	9HSRXAJR5Z0122	AA
R326		CHIP RES.(1608) 1/10W J 4.7k Ω	9HSRXAJR5Z0472	AA
R327		CHIP RES.(1608) 1/10W J 6.8k Ω	9HSRXAJR5Z0682	AA
R328		CHIP RES.(1608) 1/10W J 1k Ω	9HSRXAJR5Z0102	AA
R330		CHIP RES.(1608) 1/10W J 2.2k Ω	9HSRXAJR5Z0222	AA
R331		CHIP RES.(1608) 1/10W J 18k Ω	9HSRXAJR5Z0183	AA
R332		CHIP RES.(1608) 1/10W J 10k Ω	9HSRXAJR5Z0103	AA
R333		CHIP RES.(1608) 1/10W J 18k Ω	9HSRXAJR5Z0183	AA
R334		CHIP RES.(1608) 1/10W J 10k Ω	9HSRXAJR5Z0103	AA
R335		CHIP RES.(1608) 1/10W J 100 Ω	9HSRXAJR5Z0101	AA
R336		CHIP RES.(1608) 1/10W J 4.7k Ω	9HSRXAJR5Z0472	AA
R337		CHIP RES.(1608) 1/10W J 6.8k Ω	9HSRXAJR5Z0682	AA
R341		CHIP RES.(1608) 1/10W J 33 Ω	9HSRXAJR5Z0330	AA
R401		CARBON RES. 1/4W J 820 Ω	9HSCX4JATZ0821	AA
R402		CARBON RES. 1/6W J 100 Ω	9HSCX6JATZ0101	AA
R405		CHIP RES.(1608) 1/10W J 47k Ω	9HSRXAJR5Z0473	AA
R406		CHIP RES.(1608) 1/10W J 22k Ω	9HSRXAJR5Z0223	AA
R407		CHIP RES.(1608) 1/10W J 5.6k Ω	9HSRXAJR5Z0562	AA
R408		CHIP RES.(1608) 1/10W J 12k Ω	9HSRXAJR5Z0123	AA
R409		CHIP RES.(1608) 1/10W J 5.6k Ω	9HSRXAJR5Z0562	AA
R410		CHIP RES.(1608) 1/10W J 1k Ω	9HSRXAJR5Z0102	AA
R411		CHIP RES.(1608) 1/10W J 27k Ω	9HSRXAJR5Z0273	AA
R412		CHIP RES.(1608) 1/10W J 120 Ω	9HSRXAJR5Z0121	AA
R413		CHIP RES.(1608) 1/10W J 330k Ω	9HSRXAJR5Z0334	AA
R414		CHIP RES.(1608) 1/10W J 12k Ω	9HSRXAJR5Z0123	AA
R415		CHIP RES.(1608) 1/10W J 1.8k Ω	9HSRXAJR5Z0182	AA
R416		CHIP RES.(1608) 1/10W J 560 Ω	9HSRXAJR5Z0561	AA
R417		CHIP RES.(1608) 1/10W J 2.2k Ω	9HSRXAJR5Z0222	AA
R418		CHIP RES.(1608) 1/10W J 12k Ω	9HSRXAJR5Z0123	AA
R419		CHIP RES.(1608) 1/10W J 10k Ω	9HSRXAJR5Z0103	AA
R420		CHIP RES.(1608) 1/10W J 4.7k Ω	9HSRXAJR5Z0472	AA
R421		CHIP RES.(1608) 1/10W J 4.7k Ω	9HSRXAJR5Z0472	AA
R430		CHIP RES.(1608) 1/10W 0 Ω	9HSRXAZR5Z0000	AA
R431		CHIP RES.(1608) 1/10W 0 Ω	9HSRXAZR5Z0000	AA

Ref. No.	Mark	Description	Part No.	Code
R451		CHIP RES.(1608) 1/10W J 8.2k Ω	9HSRXAJR5Z0822	AA
R452		CHIP RES.(1608) 1/10W J 39k Ω	9HSRXAJR5Z0393	AA
R453		CHIP RES.(1608) 1/10W J 5.6k Ω	9HSRXAJR5Z0562	AA
R454		CHIP RES.(1608) 1/10W J 39k Ω	9HSRXAJR5Z0393	AA
R455		CHIP RES.(1608) 1/10W J 5.6k Ω	9HSRXAJR5Z0562	AA
R456		CHIP RES.(1608) 1/10W J 39k Ω	9HSRXAJR5Z0393	AA
R457		CHIP RES.(1608) 1/10W J 5.6k Ω	9HSRXAJR5Z0562	AA
R458		CHIP RES.(1608) 1/10W 0 Ω	9HSRXAZR5Z0000	AA
R459		CHIP RES.(1608) 1/10W J 39k Ω	9HSRXAJR5Z0393	AA
R460		CHIP RES.(1608) 1/10W J 5.6k Ω	9HSRXAJR5Z0562	AA
R461		CHIP RES.(1608) 1/10W J 47k Ω	9HSRXAJR5Z0473	AA
R462		CHIP RES.(1608) 1/10W J 10k Ω	9HSRXAJR5Z0103	AA
R463		CHIP RES.(1608) 1/10W J 470 Ω	9HSRXAJR5Z0471	AA
R464		CHIP RES.(1608) 1/10W J 3.3k Ω	9HSRXAJR5Z0332	AA
R465		CHIP RES.(1608) 1/10W J 8.2k Ω	9HSRXAJR5Z0822	AA
R466		CHIP RES.(1608) 1/10W J 8.2k Ω	9HSRXAJR5Z0822	AA
R467		CHIP RES.(1608) 1/10W J 5.6k Ω	9HSRXAJR5Z0562	AA
R468		CHIP RES.(1608) 1/10W J 5.6k Ω	9HSRXAJR5Z0562	AA
R469		CHIP RES.(1608) 1/10W J 39k Ω	9HSRXAJR5Z0393	AA
R470		CHIP RES.(1608) 1/10W J 39k Ω	9HSRXAJR5Z0393	AA
R471		CHIP RES.(1608) 1/10W J 39k Ω	9HSRXAJR5Z0393	AA
R472		CHIP RES.(1608) 1/10W J 5.6k Ω	9HSRXAJR5Z0562	AA
R473		CHIP RES.(1608) 1/10W 0 Ω	9HSRXAZR5Z0000	AA
R474		CHIP RES.(1608) 1/10W J 5.6k Ω	9HSRXAJR5Z0562	AA
R475		CHIP RES.(1608) 1/10W J 47k Ω	9HSRXAJR5Z0473	AA
R476		CHIP RES.(1608) 1/10W J 150 Ω	9HSRXAJR5Z0151	AA
R477		CHIP RES.(1608) 1/10W J 150 Ω	9HSRXAJR5Z0151	AA
R478		CHIP RES.(1608) 1/10W J 39k Ω	9HSRXAJR5Z0393	AA
R479		CHIP RES.(1608) 1/10W J 33 Ω	9HSRXAJR5Z0330	AA
R480		CHIP RES.(1608) 1/10W J 100 Ω	9HSRXAJR5Z0101	AA
R481		CHIP RES.(1608) 1/10W J 33 Ω	9HSRXAJR5Z0330	AA
R482		CHIP RES.(1608) 1/10W J 100 Ω	9HSRXAJR5Z0101	AA
R483		CHIP RES.(1608) 1/10W J 22k Ω	9HSRXAJR5Z0223	AA
R484		CHIP RES.(1608) 1/10W J 6.8k Ω	9HSRXAJR5Z0682	AA
R501		CHIP RES.(1608) 1/10W J 1.8k Ω	9HSRXAJR5Z0182	AA
R502		CHIP RES.(1608) 1/10W J 1k Ω	9HSRXAJR5Z0102	AA
R503		CHIP RES.(1608) 1/10W J 3.9k Ω	9HSRXAJR5Z0392	AA
R504		CHIP RES.(1608) 1/10W J 3.9k Ω	9HSRXAJR5Z0392	AA
R507		CHIP RES.(1608) 1/10W J 1k Ω	9HSRXAJR5Z0102	AA
R509		CHIP RES.(1608) 1/10W J 180 Ω	9HSRXAJR5Z0181	AA
R511		CARBON RES. 1/6W G 3.6k Ω	9HSCX6GATZ0362	AA
R512		CHIP RES.(1608) 1/10W J 68k Ω	9HSRXAJR5Z0683	AA
R513		CHIP RES.(1608) 1/10W J 33k Ω	9HSRXAJR5Z0333	AA
R514		CARBON RES. 1/6W G 10k Ω	9HSCX6GATZ0103	AA
R516		CARBON RES. 1/6W G 470 Ω	9HSCX6GATZ0471	AA
R517		CARBON RES. 1/4W J 270 Ω	9HSCX4JATZ0271	AA
R519		CARBON RES. 1/6W G 22k Ω	9HSCX6GATZ0223	AA
R520		CARBON RES. 1/6W J 330 Ω	9HSCX6JATZ0331	AA
R521		CHIP RES.(1608) 1/10W J 10k Ω	9HSRXAJR5Z0103	AA
R522		CHIP RES.(1608) 1/10W J 3.9k Ω	9HSRXAJR5Z0392	AA
R523		CARBON RES. 1/6W G 1.5k Ω	9HSCX6GATZ0152	AA
R524		CHIP RES.(1608) 1/10W J 10k Ω	9HSRXAJR5Z0103	AA
R525		CARBON RES. 1/6W J 390k Ω	9HSCX6JATZ0394	AA
R526		CHIP RES.(1608) 1/10W J 390k Ω	9HSRXAJR5Z0394	AA
R527		CARBON RES. 1/6W J 330 Ω	9HSCX6JATZ0331	AA
R528		CARBON RES. 1/6W G 4.7k Ω	9HSCX6GATZ0472	AA
R529		CHIP RES.(1608) 1/10W J 3.9k Ω	9HSRXAJR5Z0392	AA
R530		CARBON RES. 1/4W J 270 Ω	9HSCX4JATZ0271	AA
R531		CHIP RES.(1608) 1/10W J 3.9k Ω	9HSRXAJR5Z0392	AA
R532		CARBON RES. 1/4W J 270 Ω	9HSCX4JATZ0271	AA
R533		CHIP RES.(1608) 1/10W J 3.9k Ω	9HSRXAJR5Z0392	AA
R534		CARBON RES. 1/6W J 330 Ω	9HSCX6JATZ0331	AA
R535		CHIP RES.(1608) 1/10W J 3.9k Ω	9HSRXAJR5Z0392	AA
R536		CHIP RES.(1608) 1/10W J 1.8k Ω	9HSRXAJR5Z0182	AA
R537		CHIP RES.(1608) 1/10W J 680 Ω	9HSRXAJR5Z0681	AA
R538		CHIP RES.(1608) 1/10W J 1.5k Ω	9HSRXAJR5Z0152	AA
R539		CHIP RES.(1608) 1/10W J 10k Ω	9HSRXAJR5Z0103	AA
R540		CHIP RES.(1608) 1/10W J 10k Ω	9HSRXAJR5Z0103	AA
R541		CHIP RES.(1608) 1/10W J 18k Ω	9HSRXAJR5Z0183	AA

Ref. No.	Mark	Description	Part No.	Code
R542		CHIP RES.(1608) 1/10W J 1k Ω	9HSRXAJR5Z0102	AA
R543		CARBON RES. 1/4W J 1k Ω	9HSCX4JATZ0102	AA
R544		CHIP RES.(1608) 1/10W J 10k Ω	9HSRXAJR5Z0103	AA
R545		CHIP RES.(1608) 1/10W J 10k Ω	9HSRXAJR5Z0103	AA
R546		CHIP RES.(1608) 1/10W J 1k Ω	9HSRXAJR5Z0102	AA
R547	B,C	CHIP RES.(1608) 1/10W J 10k Ω	9HSRXAJR5Z0103	AA
R548	A	CHIP RES.(1608) 1/10W J 10k Ω	9HSRXAJR5Z0103	AA
R550		CHIP RES.(1608) 1/10W J 10k Ω	9HSRXAJR5Z0103	AA
R552		CHIP RES.(1608) 1/10W J 10k Ω	9HSRXAJR5Z0103	AA
R554		CHIP RES.(1608) 1/10W J 10k Ω	9HSRXAJR5Z0103	AA
R555	A	CHIP RES.(1608) 1/10W J 1k Ω	9HSRXAJR5Z0102	AA
R557		CHIP RES.(1608) 1/10W J 10k Ω	9HSRXAJR5Z0103	AA
R560		CHIP RES.(1608) 1/10W J 10k Ω	9HSRXAJR5Z0103	AA
R562	B,C	CHIP RES.(1608) 1/10W J 10k Ω	9HSRXAJR5Z0103	AA
R563	A	CHIP RES.(1608) 1/10W J 10k Ω	9HSRXAJR5Z0103	AA
R567		CHIP RES.(1608) 1/10W J 39k Ω	9HSRXAJR5Z0393	AA
R568		CHIP RES.(1608) 1/10W J 220k Ω	9HSRXAJR5Z0224	AA
R569		CHIP RES.(1608) 1/10W J 10k Ω	9HSRXAJR5Z0103	AA
R570		CHIP RES.(1608) 1/10W J 4.7k Ω	9HSRXAJR5Z0472	AA
R572		CHIP RES.(1608) 1/10W J 1k Ω	9HSRXAJR5Z0102	AA
R574		CHIP RES.(1608) 1/10W J 1k Ω	9HSRXAJR5Z0102	AA
R575		CHIP RES.(1608) 1/10W J 330k Ω	9HSRXAJR5Z0334	AA
R576		CHIP RES.(1608) 1/10W J 10k Ω	9HSRXAJR5Z0103	AA
R577		CHIP RES.(1608) 1/10W J 1.5k Ω	9HSRXAJR5Z0152	AA
R578		CHIP RES.(1608) 1/10W J 1k Ω	9HSRXAJR5Z0102	AA
R581		CHIP RES.(1608) 1/10W J 10k Ω	9HSRXAJR5Z0103	AA
R582		CHIP RES.(1608) 1/10W J 100k Ω	9HSRXAJR5Z0104	AA
R583		CARBON RES. 1/4W J 820 Ω	9HSCX4JATZ0821	AA
R584		CHIP RES.(1608) 1/10W J 100 Ω	9HSRXAJR5Z0101	AA
R585		CHIP RES.(1608) 1/10W J 2.2k Ω	9HSRXAJR5Z0222	AA
R586		CHIP RES.(1608) 1/10W J 820 Ω	9HSRXAJR5Z0821	AA
R587		CHIP RES.(1608) 1/10W J 1k Ω	9HSRXAJR5Z0102	AA
R588		CHIP RES.(1608) 1/10W J 470 Ω	9HSRXAJR5Z0471	AA
R590	A	CHIP RES.(1608) 1/10W J 10k Ω	9HSRXAJR5Z0103	AA
R591	B,C	CHIP RES.(1608) 1/10W J 10k Ω	9HSRXAJR5Z0103	AA
R601		CHIP RES.(1608) 1/10W J 1.8k Ω	9HSRXAJR5Z0182	AA
R602		CHIP RES.(1608) 1/10W J 1k Ω	9HSRXAJR5Z0102	AA
R603		CHIP RES.(1608) 1/10W J 1.2k Ω	9HSRXAJR5Z0122	AA
R604		CHIP RES.(1608) 1/10W J 1.5k Ω	9HSRXAJR5Z0152	AA
R605		CHIP RES.(1608) 1/10W J 2.2k Ω	9HSRXAJR5Z0222	AA
R609		CHIP RES.(1608) 1/10W J 5.1k Ω	9HSRXAJR5Z0512	AA
R610		CHIP RES.(1608) 1/10W J 8.2k Ω	9HSRXAJR5Z0822	AA
R613		CHIP RES.(1608) 1/10W J 8.2k Ω	9HSRXAJR5Z0822	AA
R614		CHIP RES.(1608) 1/10W J 5.1k Ω	9HSRXAJR5Z0512	AA
R615		CHIP RES.(1608) 1/10W J 5.1k Ω	9HSRXAJR5Z0512	AA
R616		CHIP RES.(1608) 1/10W J 8.2k Ω	9HSRXAJR5Z0822	AA
R617		PCB JUMPER D0.6-P5.0	-----	--
R618		CHIP RES.(1608) 1/10W J 100k Ω	9HSRXAJR5Z0104	AA
R624		CHIP RES.(1608) 1/10W J 10k Ω	9HSRXAJR5Z0103	AA
R632	A	CHIP RES.(1608) 1/10W J 100 Ω	9HSRXAJR5Z0101	AA
R633	A	CHIP RES.(1608) 1/10W J 10k Ω	9HSRXAJR5Z0103	AA
R634	A	CHIP RES.(1608) 1/10W J 10k Ω	9HSRXAJR5Z0103	AA
R635	A	CHIP RES.(1608) 1/10W J 2.7k Ω	9HSRXAJR5Z0272	AA
R636	A	CHIP RES.(1608) 1/10W J 10k Ω	9HSRXAJR5Z0103	AA
R637	A	CHIP RES.(1608) 1/10W J 5.6k Ω	9HSRXAJR5Z0562	AA
R703		CARBON RES. 1/6W J 1.8k Ω	9HSCX6JATZ0182	AA
R704		CARBON RES. 1/4W J 1k Ω	9HSCX4JATZ0102	AA
R705		CHIP RES.(1608) 1/10W J 1k Ω	9HSRXAJR5Z0102	AA
R706		CARBON RES. 1/4W J 1k Ω	9HSCX4JATZ0102	AA
R707		CHIP RES.(1608) 1/10W 0 Ω	9HSRXAZR5Z0000	AA
R756		CHIP RES.(1608) 1/10W J 470 Ω	9HSRXAJR5Z0471	AA
R757		CHIP RES.(1608) 1/10W J 470 Ω	9HSRXAJR5Z0471	AA
R759		CARBON RES. 1/6W J 150 Ω	9HSCX6JATZ0151	AC
R760		CHIP RES.(1608) 1/10W J 150 Ω	9HSRXAJR5Z0151	AA
R761		CHIP RES.(1608) 1/10W J 75 Ω	9HSRXAJR5Z0750	AA
R762		CHIP RES.(1608) 1/10W J 4.7k Ω	9HSRXAJR5Z0472	AA
R763		CHIP RES.(1608) 1/10W J 4.7k Ω	9HSRXAJR5Z0472	AA
R764		CARBON RES. 1/4W J 6.8k Ω	9HSCX4JATZ0682	AA
R767		CHIP RES.(1608) 1/10W J 1k Ω	9HSRXAJR5Z0102	AA

Ref. No.	Mark	Description	Part No.	Code
R768		CHIP RES.(1608) 1/10W J 1k Ω	9HSRXAJR5Z0102	AA
R769		PCB JUMPER D0.6-P5.0	-----	--
R901		CHIP RES.(1608) 1/10W 0 Ω	9HSRXAZR5Z0000	AA
R902		CHIP RES.(1608) 1/10W 0 Ω	9HSRXAZR5Z0000	AA
R903		CHIP RES.(1608) 1/10W 0 Ω	9HSRXAZR5Z0000	AA
R1056		CARBON RES. 1/4W J 180 Ω	9HSCX4JATZ0181	AA
R1057		CARBON RES. 1/4W J 180 Ω	9HSCX4JATZ0181	AA
R1061		CARBON RES. 1/4W J 1k Ω	9HSCX4JATZ0102	AA
R1062		CHIP RES.(1608) 1/10W J 10k Ω	9HSRXAJR5Z0103	AA
R1065		CHIP RES.(1608) 1/10W J 10k Ω	9HSRXAJR5Z0103	AA
R1066		CHIP RES.(1608) 1/10W J 220k Ω	9HSRXAJR5Z0224	AA
R1067		CHIP RES.(1608) 1/10W J 22k Ω	9HSRXAJR5Z0223	AA
R1068		CARBON RES. 1/6W J 390 Ω	9HSCX6JATZ0391	AA
R1071		CHIP RES.(1608) 1/10W J 10k Ω	9HSRXAJR5Z0103	AA
R1072		CHIP RES.(1608) 1/10W J 5.6k Ω	9HSRXAJR5Z0562	AA
R1085		CHIP RES.(1608) 1/10W F 75 Ω	9HSRXAFR5H0750	AA
R1086		CHIP RES.(1608) 1/10W F 2.0k Ω	9HSRXAFR5H0202	AA
R1087		CHIP RES.(1608) 1/10W J 1k Ω	9HSRXAJR5Z0102	AA
R1090		CHIP RES.(1608) 1/10W J 5.6k Ω	9HSRXAJR5Z0562	AA
R1091		CHIP RES.(1608) 1/10W J 3.3k Ω	9HSRXAJR5Z0332	AA
R1205		CHIP RES.(1608) 1/10W F 20k Ω	9HSRXAFR5H2002	AA
R1206		CHIP RES.(1608) 1/10W F 20k Ω	9HSRXAFR5H2002	AA
R1207		CHIP RES.(1608) 1/10W J 8.2k Ω	9HSRXAJR5Z0822	AA
R1208		CHIP RES.(1608) 1/10W J 8.2k Ω	9HSRXAJR5Z0822	AA
R1209		CHIP RES.(1608) 1/10W F 30k Ω	9HSRXAFR5H3002	AA
R1210		CHIP RES.(1608) 1/10W F 30k Ω	9HSRXAFR5H3002	AA
R1211		CHIP RES.(1608) 1/10W J 1k Ω	9HSRXAJR5Z0102	AA
R1221		CHIP RES.(1608) 1/10W J 100k Ω	9HSRXAJR5Z0104	AA
R1222		CHIP RES.(1608) 1/10W J 100k Ω	9HSRXAJR5Z0104	AA
R1223		CHIP RES.(1608) 1/10W 0 Ω	9HSRXAZR5Z0000	AA
R1224		CHIP RES.(1608) 1/10W 0 Ω	9HSRXAZR5Z0000	AA
R1227		CHIP RES.(1608) 1/10W J 220 Ω	9HSRXAJR5Z0221	AA
R1228		CHIP RES.(1608) 1/10W J 220 Ω	9HSRXAJR5Z0221	AA
R1229		CHIP RES.(1608) 1/10W 0 Ω	9HSRXAZR5Z0000	AA
R1238		CHIP RES.(1608) 1/10W 0 Ω	9HSRXAZR5Z0000	AA
R1240		CHIP RES.(1608) 1/10W J 100k Ω	9HSRXAJR5Z0104	AA
R1245		CHIP RES.(1608) 1/10W J 10 Ω	9HSRXAJR5Z0100	AA
R1352		CHIP RES.(1608) 1/10W J 1.8k Ω	9HSRXAJR5Z0182	AA
R1353		CHIP RES.(1608) 1/10W J 2.2k Ω	9HSRXAJR5Z0222	AA
R1354		CHIP RES.(1608) 1/10W J 2.2k Ω	9HSRXAJR5Z0222	AA
R1355		CHIP RES.(1608) 1/10W J 220 Ω	9HSRXAJR5Z0221	AA
R1356		CHIP RES.(1608) 1/10W J 75 Ω	9HSRXAJR5Z0750	AA
R1361		CHIP RES.(1608) 1/10W J 100k Ω	9HSRXAJR5Z0104	AA
R1394		CARBON RES. 1/6W J 100 Ω	9HSCX6JATZ0101	AA
R1396		CHIP RES.(1608) 1/10W J 2.7k Ω	9HSRXAJR5Z0272	AA
R1401		CHIP RES.(1608) 1/10W J 2.7k Ω	9HSRXAJR5Z0272	AA
R1402		CHIP RES.(1608) 1/10W J 2.2k Ω	9HSRXAJR5Z0222	AA
R1403		CHIP RES.(1608) 1/10W J 47k Ω	9HSRXAJR5Z0473	AA
R1421		CHIP RES. 1/10W F 160 Ω	9HSRXAFR5H1600	AA
R1422		CARBON RES. 1/4W J 75 Ω	9HSCX4JATZ0750	AA
R1423		CHIP RES. 1/10W F 160 Ω	9HSRXAFR5H1600	AA
R1442		CARBON RES. 1/4W J 75 Ω	9HSCX4JATZ0750	AA
R1461		CHIP RES. 1/10W F 160 Ω	9HSRXAFR5H1600	AA
R1471		CHIP RES. 1/10W F 160 Ω	9HSRXAFR5H1600	AA
R1481		CHIP RES. 1/10W F 160 Ω	9HSRXAFR5H1600	AA
R1501		CARBON RES. 1/4W J 75 Ω	9HSCX4JATZ0750	AA
R1502		CHIP RES.(1608) 1/10W J 10k Ω	9HSRXAJR5Z0103	AA
R1503		CHIP RES.(1608) 1/10W J 6.8k Ω	9HSRXAJR5Z0682	AA
R2001		CHIP RES.(1608) 1/10W J 10k Ω	9HSRXAJR5Z0103	AA
R2002		CHIP RES.(1608) 1/10W J 10k Ω	9HSRXAJR5Z0103	AA
R2003		CHIP RES.(1608) 1/10W J 10k Ω	9HSRXAJR5Z0103	AA
R2005		CHIP RES.(1608) 1/10W J 10k Ω	9HSRXAJR5Z0103	AA
R2006		CHIP RES.(1608) 1/10W J 10k Ω	9HSRXAJR5Z0103	AA
R2067		CHIP RES.(1608) 1/10W J 10k Ω	9HSRXAJR5Z0103	AA
R2086		CHIP RES.(1608) 1/10W J 5.6k Ω	9HSRXAJR5Z0562	AA
R2093		CHIP RES.(1608) 1/10W J 22k Ω	9HSRXAJR5Z0223	AA
R2094		CHIP RES.(1608) 1/10W J 10k Ω	9HSRXAJR5Z0103	AA
SWITCHES				
SW501		TACT SWITCH KSM0614B	9HSST0101HH013	AB

Ref. No.	Mark	Description	Part No.	Code
SW503		TACT SWITCH KSM0614B	9HSST0101HH013	AB
SW504		TACT SWITCH KSM0614B	9HSST0101HH013	AB
SW506		LEAF SWITCH MXS01830MVP0	9HSSC0101MCE03	AC
SW507		ROTARY MODE SWITCH SSS-53MD	9HSSR0106KB003	AD
SW511		TACT SWITCH KSM0611B	9HSST0101HH004	AC
SW601		TACT SWITCH KSM0614B	9HSST0101HH013	AB
SW602		TACT SWITCH KSM0614B	9HSST0101HH013	AB
SW603		TACT SWITCH KSM0614B	9HSST0101HH013	AB
SW604		TACT SWITCH KSM0614B	9HSST0101HH013	AB
SW605		TACT SWITCH KSM0614B	9HSST0101HH013	AB
SW2021		TACT SWITCH KSM0614B	9HSST0101HH013	AB
SW2022		TACT SWITCH KSM0614B	9HSST0101HH013	AB
MISCELLANEOUS				
2L062		SCREW B-TIGHT M3X8 BIND HEAD +	9HSGBKB3080	AA
2L082		SCREW B-TIGHT M3X8 BIND HEAD +	9HSGBKB3080	AA
2B11		NEW SHIELD ASSEMBLY H9700ED	9HS1VM420438	AE
2B15		BUSH LED(F) H3700UD	9HS0VM409508	AB
2B17		FIP SPACER H9646JD	9HS1VM320457	AD
2B46		RΩ HOLDER H7770JD	9HS0VM304573	AB
A5		JACK COVER(RCA) H9941ED	9HS1VM320976	AE
JK101		RGB CONNECTOR MRC-021V-03 ABS(B11	9HSXGL210LY006	AE
JK1202		RCA JACK(BLACK) MSP-281V2-B	9HSXRL010LY062	AC
JK1401		S TYPE JACK MDC-050V-2.4	9HSXEL040LY001	AE
JK751		RCA JACK 2P MSP-282V-12 NI LF(B1	9HSXRL020LY121	AD
JK752		RCA JACK(YELLOW) MSP-281V4-B	9HSXRL010LY003	AC
JK753		RCA JACK(WHITE) MSP-281V1-B	9HSXRL010LY005	AC
JK754		RCA JACK(RED) MSP-281V3-A	9HSYRL010LY002	AC
JW006		FFC CABLE 27P FFC/P1.00/260	9HSX1H9700-001	AH
JW007		FFC CABLE 18P FFC/P1.00/170	9HSX1H9900-001	AF
RM2001		REMOTE RECEIVER PIC-37043LO	9HSSESJRSKK041	AK
PS502		PHOTO INTERRUPTER RPI-302C70	9HSPWZP1302C70	AE
TP301		PCB JUMPER D0.6-P19.0	-----	--
TP501		PCB JUMPER D0.6-P5.0	-----	--
TP502		PCB JUMPER D0.6-P5.0	-----	--
TP503		PCB JUMPER D0.6-P6.0	-----	--
TP504		PCB JUMPER D0.6-P15.0	-----	--
TU701		TUNER UNIT TMDG9-861A	9HSTUNPLGAL015	BB
VR501		CARBON P.O.T. VZ067TL1 B104 PB(F)	9HSRCB104HH014	AB
X301		XTAL 4.433619MHz	9HSXC445LLN004	AD
X501		XTAL 12.000MHz	9HSXD126LDS001	AE
X502		XTAL 32.768kHz(20PPM)	9HSXC323LQUA01	AC

POWER SW CBA

Ref. No.	Mark	Description	Part No.	Code
		POWER SW CBA Consists of the following	-----	--
DIODE				
D651		LED(RED) 204HD/E	9HSPQZ00204HDE	AB
SWITCH				
SW651		TACT SWITCH KSM0614B	9HSST0101HH013	AB
MISCELLANEOUS				
2B13		BUSH LED(E) H1600UD	9HS0VM408832	AB
JW009		FLAT CABLE 4P AWG26#2651/P2.0/80	9HSX3804S6FF08	AD

DVD OPEN/CLOSE CBA

Ref. No.	Mark	Description	Part No.	Code
		DVD OPEN/CLOSE CBA Consists of the following	-----	--
SWITCH				
SW2020		TACT SWITCH KSM0614B	9HSST0101HH013	AB
MISCELLANEOUS				
JW008		FLAT CABLE 2P AWG26#2651/P2.0/120	9HSX1HC460-001	AC

SENSOR CBA

Ref. No.	Mark	Description	Part No.	Code
		SENSOR CBA Consists of the following	9HS1VSA10047	AK
TRANSISTORS				
Q503		PHOTO TRANSISTOR PT204-6B-12	9HSPWZT2046B12	AC
Q504		PHOTO TRANSISTOR PT204-6B-12	9HSPWZT2046B12	AC

POWER SUPPLY CBA + JUNCTION CBA + JACK-A CBA + JACK-B CBA

Ref. No.	Mark	Description	Part No.	Code
		POWER SUPPLY CBA + JUNCTION CBA + JACK-A CBA + JACK-B CBA Consists of the following	9HS1VSA12050	BH
		POWER SUPPLY CBA	-----	--
		JUNCTION CBA	-----	--
		JACK-A CBA	-----	--
		JACK-B CBA	-----	--

POWER SUPPLY CBA

Ref. No.	Mark	Description	Part No.	Code
		POWER SUPPLY CBA Consists of the following	-----	--
CAPACITORS				
C013		ELECTROLYTIC CAP. 10 μ F/50V M	9HSE1JMASDL100	AC
C014		ELECTROLYTIC CAP. 470 μ F/16V M	9HSE1CMASDL471	AB
C015		ELECTROLYTIC CAP. 100 μ F/16V M	9HSE1CMASDL101	AC
C017		ELECTROLYTIC CAP. 1000 μ F/16V M	9HSE1CMASDL102	AE
C018		ELECTROLYTIC CAP. 470 μ F/6.3V M	9HSE0KMASDL471	AB
C020		ELECTROLYTIC CAP. 22 μ F/50V M	9HSE1JMASDL220	AB
C021		CHIP CERAMIC CAP.(1608) F Z 0.1 μ F/50V	9HSHD1JZ30F104	AA
C022		ELECTROLYTIC CAP. 470 μ F/35V M	9HSE1GMASDL471	AE
C1001 Δ		METALLIZED FILM CAP. 0.068 μ F/250V K	9HST2E683DC011	AE
C1004		ELECTROLYTIC CAP. 100 μ F/400V M	9HSA2H101S6016	AM
C1005		CERAMIC CAP. SL K 56pF/1KV	9HSCD3AKPSL560	AD
C1006 Δ		SAFTY CAP. 2200pF/250V	9HSCN2EMA0E222	AD
C1007		ELECTROLYTIC CAP. 1000 μ F/6.3V M	9HSE0KMASDL102	AC
C1013		CERAMIC CAP.(AX) X K 3300pF/16V	9HSCA1CKT0X332	AA
C1018		ELECTROLYTIC CAP. 100 μ F/10V M	9HSE1AMASDL101	AC
C1021		CERAMIC CAP.(AX) F Z 0.01 μ F/25V	9HSDA1EZT0F103	AA
C1025		CHIP CERAMIC CAP. B K 0.068 μ F/50V	9HSHD1JK30B683	AA
C1029		CERAMIC CAP.(AX) X K 2200pF/16V	9HSCA1CKT0X222	AA
C1032		ELECTROLYTIC CAP. 10 μ F/16V M	9HSE1CMASDL100	AB
C1033		CERAMIC CAP. YV Z 0.022 μ F/50V	9HSCD1JZSYV223	AB
C1035		ELECTROLYTIC CAP. 470 μ F/6.3V M	9HSE0KMASDL471	AB
C1106		ELECTROLYTIC CAP. 100 μ F/35V M	9HSE1GMASDL101	AC
C1107		ELECTROLYTIC CAP. 220 μ F/6.3V M	9HSE0KMASDL221	AB
C2014		CERAMIC CAP. B K 0.01 μ F/500V	9HSCD2JKP0B103	AD
C2015		ELECTROLYTIC CAP. 470 μ F/6.3V M	9HSE0KMASDL471	AB
DIODES				
D013		RECTIFIER DIODE BA158	9HSDQZ000BA158	AB
D014		SCHOTTKY BARRIER DIODE SB390	9HSDQZ000SB390	AE
D016		SCHOTTKY BARRIER DIODE SB340	9HSDQZ000SB340	AF
D017		ZENER DIODE DZ-18BSAT265	9HSDTA00DZ18BS	AB
D018		RECTIFIER DIODE BA158	9HSDQZ000BA158	AB
D019		RECTIFIER DIODE FR203-B/P	9HSDQZ000FR203	AB
D1001		RECTIFIER DIODE 1N4005	9HSDQZ001N4005	AB
D1002		RECTIFIER DIODE 1N4005	9HSDQZ001N4005	AB
D1003		RECTIFIER DIODE 1N4005	9HSDQZ001N4005	AB
D1004		RECTIFIER DIODE 1N4005	9HSDQZ001N4005	AB
D1006		SWITCHING DIODE 1N4148M	9HSDT01N4148M	AA
D1008		SCHOTTKY BARRIER DIODE SB140	9HSDQZ000SB140	AC
D1011		RECTIFIER DIODE BA159	9HSDQZ000BA159	AB
D1012		SWITCHING DIODE 1N4148M	9HSDT01N4148M	AA
D1016		RECTIFIER DIODE FR101	9HSDWZ000FR101	AB
D1017		ZENER DIODE DZ-18BSBT265	9HSDTB00DZ18BS	AB
D1018		SWITCHING DIODE 1N4148M	9HSDT01N4148M	AA

Ref. No.	Mark	Description	Part No.	Code
D1019		ZENER DIODE DZ-6.8BSBT265	9HSDTB0DZ6R8BS	AB
D1022		SWITCHING DIODE 1N4148M	9HSDTZ01N4148M	AA
D1024		SWITCHING DIODE 1N4148M	9HSDTZ01N4148M	AA
D1025		SWITCHING DIODE 1N4148M	9HSDTZ01N4148M	AA
D1030		SCHOTTKY BARRIER DIODE SB140	9HSDQZ000SB140	AC
IC				
IC1001△		PHOTOCOUPLER EL817A	9HSPEA000EL817	AD
COILS				
L010		CHOKE COIL 47μH	9HSLBD00PKV022	AB
L013		CHOKE COIL 47μH	9HSLBD00PKV022	AB
L1001		BEAD CORE ASSEMBLY H9900ED	9HS1VSA11421	AC
L1002		BEAD CORE ASSEMBLY H9900ED	9HS1VSA11421	AC
L1003△		LINE FILTER 56MH TLF14CB5630R2	9HSLBG00ZTU022	AE
L1004		BEAD CORE B16 RH 3.5X10X1.3	9HSL03010XM001	AB
L1005		BEAD CORE ASSEMBLY H9900ED	9HS1VSA11421	AC
L1009		CHOKE COIL 47μH	9HSLBD00PKV022	AB
L1011		CHOKE COIL 47μH	9HSLBD00PKV022	AB
L1012		CHOKE COIL 47μH	9HSLBD00PKV022	AB
TRANSISTORS				
Q1001△		FET 2SK3566	9HSFWZ02SK3566	AH
Q1003		TRANSISTOR KTC3199-GR-AT/P	9HSQS4KTC3199P	AB
Q1004		TRANSISTOR KTA1267Y-AT/P	9HSQSYKTA1267P	AB
Q1008		TRANSISTOR KTC3199-Y-AT/P	9HSQSYKTC3199P	AC
RESISTORS				
R057		CHIP RES.(1608) 1/10W J 220k Ω	9HSRXAJR5Z0224	AA
R1001△		CARBON RES. 1/2W K 5.6M Ω	9HSCX2565FS001	AC
R1002		CARBON RES. 1/4W J 560k Ω	9HSCX4JATZ0564	AA
R1003		CARBON RES. 1/4W J 560k Ω	9HSCX4JATZ0564	AA
R1004		METAL OXIDE FILM RES. 2W J 82k Ω	9HSN02JZLZ0823	AB
R1005		CARBON RES. 1/4W J 1M Ω	9HSCX4JATZ0105	AA
R1006		CARBON RES. 1/4W J 1M Ω	9HSCX4JATZ0105	AA
R1007		CARBON RES. 1/4W J 1M Ω	9HSCX4JATZ0105	AA
R1008		CARBON RES. 1/4W G 680 Ω	9HSCX4GATZ0681	AA
R1010		CARBON RES. 1/6W J 8.2k Ω	9HSCX6JATZ0822	AA
R1011		METAL OXIDE FILM RES. 1W J 1.3 Ω	9HSN01JZLZ01R3	AA
R1020		CHIP RES.(1608) 1/10W J 1.8k Ω	9HSRXAJR5Z0182	AA
R1021		CHIP RES.(1608) 1/10W J 1k Ω	9HSRXAJR5Z0102	AA
R1022		CHIP RES.(1608) 1/10W J 4.7k Ω	9HSRXAJR5Z0472	AA
R1023		CHIP RES.(1608) 1/10W F 2.2k Ω	9HSRXAFR5H0222	AA
R1025		CHIP RES. 1/10W F 5.6k Ω	9HSRXAFR5H0562	AA
R1029		CARBON RES. 1/6W J 100k Ω	9HSCX6JATZ0104	AA
R1032		CARBON RES. 1/4W G 1k Ω	9HSCX4GATZ0102	AA
R1035		CARBON RES. 1/6W J 1k Ω	9HSCX6JATZ0102	AA
R1036		CARBON RES. 1/6W J 100k Ω	9HSCX6JATZ0104	AA
R1037		CARBON RES. 1/6W J 10k Ω	9HSCX6JATZ0103	AA
R1038		CARBON RES. 1/6W J 100k Ω	9HSCX6JATZ0104	AA
R1039		CARBON RES. 1/6W J 470k Ω	9HSCX6JATZ0474	AA
R1040		CARBON RES. 1/4W J 15 Ω	9HSCX4JATZ0150	AA
R1043		METAL OXIDE FILM RES. 1W J 2.7 Ω	9HSN012R7ZU001	AA
R1059		CARBON RES. 1/4W J 820 Ω	9HSCX4JATZ0821	AA
R1126		CHIP RES.(1608) 1/10W J 33k Ω	9HSRXAJR5Z0333	AA
MISCELLANEOUS				
2L053		SCREW S-TIGHT M3X8 BIND HEAD+	9HSGBMS3080	AA
2B33		HEATSINK H9700ED	9HS0VM416271	AD
AC1001△		AC CORD PE8G2CG9G0AA059	9HSAE0172LW009	AH
F1001△		FUSE T1.6AL/250V	9HSAGC20BW3162	AC
FH1001		FUSE HOLDER MSF-015	9HSH01Z00LY001	AA
FH1002		FUSE HOLDER MSF-015	9HSH01Z00LY001	AA
SA1001△		SURGE ABSORBER 470V+-10PER	9HSVQZ10D471KB	AC
T0011△		PULSE TRANS BCK-28-0552	9HSTT00EPXB019	AH

JUNCTION CBA

Ref. No.	Mark	Description	Part No.	Code
		JUNCTION CBA Consists of the following	-----	--
CONNECTOR				
CN051A		242 SERIES CONNECTOR TUC-P17X-B1 WHT ST	9HSCTUB17TG002	AE
MISCELLANEOUS				
JW001		FLAT CABLE 8P AWG26#2651/P2.0/75	9HSX3808S6FF07	AC
JW002		FLAT CABLE 9P AWG26#2651/P2.0/65	9HSX3809S6FF06	AG

JACK-A CBA

Ref. No.	Mark	Description	Part No.	Code
		JACK-A CBA Consists of the following	-----	--
CAPACITORS				
C101		CHIP CERAMIC CAP.(1608) B K 1000pF/50V	9HSHD1JK30B102	AA
C102		ELECTROLYTIC CAP. 1μF/50V M	9HSE1JMASDL1R0	AB
C103		ELECTROLYTIC CAP. 100μF/16V M	9HSE1CMASDL101	AC
C105		CHIP CERAMIC CAP. B K 2200pF/50V	9HSHD1JK30B222	AA
C106		CHIP CERAMIC CAP.(1608) CH J 470pF/50V	9HSHD1JJ3CH471	AB
C108		ELECTROLYTIC CAP. 470μF/6.3V M	9HSE0KMASDL471	AB
C110		CERAMIC CAP.(AX) X K 2200pF/16V	9HSCA1CKT0X222	AA
C111		CHIP CERAMIC CAP.(1608) CH J 470pF/50V	9HSHD1JJ3CH471	AB
C119		CHIP CERAMIC CAP. B K 2200pF/50V	9HSHD1JK30B222	AA
DIODES				
D112		ZENER DIODE DZ-11BSAT265	9HSDTA00DZ11BS	AB
D113		ZENER DIODE DZ-11BSAT265	9HSDTA00DZ11BS	AB
D122		ZENER DIODE DZ-11BSAT265	9HSDTA00DZ11BS	AB
D123		ZENER DIODE DZ-11BSAT265	9HSDTA00DZ11BS	AB
D124		ZENER DIODE DZ-11BSAT265	9HSDTA00DZ11BS	AB
D125		ZENER DIODE DZ-11BSAT265	9HSDTA00DZ11BS	AB
COIL				
L102		BEAD CORE ASSEMBLY H9900ED	9HS1VSA11421	AC
TRANSISTOR				
Q103		TRANSISTOR KTA-1266-GR-AT/P	9HSQS4KTA1266P	AB
RESISTORS				
R107		CHIP RES.(1608) 1/10W J 75 Ω	9HSRXAJR5Z0750	AA
R108		CHIP RES.(1608) 1/10W J 75 Ω	9HSRXAJR5Z0750	AA
R109		CHIP RES.(1608) 1/10W J 75 Ω	9HSRXAJR5Z0750	AA
R111		CARBON RES. 1/6W J 220 Ω	9HSCX6JATZ0221	AA
R114		CARBON RES. 1/4W J 820 Ω	9HSCX4JATZ0821	AA
R117		CARBON RES. 1/4W J 510 Ω	9HSCX4JATZ0511	AA
R118		CARBON RES. 1/6W J 4.7k Ω	9HSCX6JATZ0472	AA
R120		CARBON RES. 1/4W J 68 Ω	9HSCX4JATZ0680	AA
R123		CARBON RES. 1/4W J 820 Ω	9HSCX4JATZ0821	AA
R125		CARBON RES. 1/6W J 4.7k Ω	9HSCX6JATZ0472	AA
R126		CHIP RES.(1608) 1/10W J 75 Ω	9HSRXAJR5Z0750	AA
MISCELLANEOUS				
JK1402		RGB CONNECTOR MRC-021V-03	9HSXGL210LY003	AE
JW003		FLAT CABLE 10P AWG26#2651/P2.0/190	9HSX3810S6FF19	AG
JW004		FLAT CABLE 4P AWG26#2651/P2.0/190	9HSX3804S6FF19	AD

JACK-B CBA

Ref. No.	Mark	Description	Part No.	Code
		JACK-B CBA Consists of the following	-----	--
RESISTORS				
R1405		CHIP RES.(1608) 1/10W J 75 Ω	9HSRXAJR5Z0750	AA
R1406		CHIP RES.(1608) 1/10W J 75 Ω	9HSRXAJR5Z0750	AA
R1407		CHIP RES.(1608) 1/10W J 75 Ω	9HSRXAJR5Z0750	AA
MISCELLANEOUS				
JK1403		RCA JACK MSP-213V1-652 PBSN	9HSXRL030LY061	AE
JW005		FLAT CABLE 4P AWG26#2651/P2.0/130	9HSX3804S6FF13	AC

AFV CBA

Ref. No.	Mark	Description	Part No.	Code
		AFV CBA Consists of the following	9HS1VSA11123	BB
CAPACITORS				
C1		CHIP CERAMIC CAP.(1608) F Z 0.1 μ F/50V	9HSHD1JZ30F104	AA
C4		CHIP CERAMIC CAP. CH J 56pF/50V	9HSHD1JJ3CH560	AA
C5		CHIP CERAMIC CAP.(1608) CH J 22pF/50V	9HSHD1JJ3CH220	AB
C6		CHIP CERAMIC CAP. CH J 56pF/50V	9HSHD1JJ3CH560	AA
C7		CHIP CERAMIC CAP. CH C 3pF/50V	9HSHD1JC3CH3R0	AA
C8		CHIP CERAMIC CAP. CH C 3pF/50V	9HSHD1JC3CH3R0	AA
C11		CHIP CERAMIC CAP.(1608) B K 0.01 μ F/50V	9HSHD1JK30B103	AA
C12		ELECTROLYTIC CAP. 10 μ F/16V M H7	9HSE1CMASSL100	AC
C13		CHIP CERAMIC CAP.(1608) B K 0.01 μ F/50V	9HSHD1JK30B103	AA
C14		CHIP CERAMIC CAP.(1608) B K 0.01 μ F/50V	9HSHD1JK30B103	AA
C15		ELECTROLYTIC CAP. 10 μ F/16V M H7	9HSE1CMASSL100	AC
C16		ELECTROLYTIC CAP. 10 μ F/16V M H7	9HSE1CMASSL100	AC
C17		CHIP CERAMIC CAP.(1608) F Z 0.1 μ F/50V	9HSHD1JZ30F104	AA
C19		CHIP CERAMIC CAP.(1608) F Z 0.1 μ F/50V	9HSHD1JZ30F104	AA
C20		ELECTROLYTIC CAP. 3.3 μ F/50V M H7	9HSE1JMASSL3R3	AC
C21		CHIP CERAMIC CAP.(1608) F Z 0.1 μ F/50V	9HSHD1JZ30F104	AA
C22		ELECTROLYTIC CAP. 10 μ F/16V M H7	9HSE1CMASSL100	AC
C24		ELECTROLYTIC CAP. 0.22 μ F/50V M H7	9HSE1JMASSLR22	AC
C27		CERAMIC CAP.(AX) F Z 0.1 μ F/25V	9HSCA1JZTFZ104	AB
CONNECTOR				
CN1		ANGLE PIN HEADER 9P IMSA-6029B-1-09Z003-	9HSTED009ER045	AC
DIODE				
D2		SWITCHING DIODE 1N4148M	9HSDT201N4148M	AA
IC				
IC1		IC AUDIO PROCESSOR MSP3417G-QG-B8-V3	9HSSZBA0SP3005	AZ
COILS				
L1		INDUCTOR 10 μ H-K-26T	9HSLAXKATTU100	AC
L2		PCB JUMPER D0.6-P5.0		
L3		INDUCTOR 18 μ H-K-26T	9HSLAXKATTU180	AC
L4		INDUCTOR 10 μ H-K-26T	9HSLAXKATTU100	AC
RESISTORS				
R1		CHIP RES.(1608) 1/10W J 1k Ω	9HSRXAJR5Z0102	AA
R4		CHIP RES.(1608) 1/10W J 120k Ω	9HSRXAJR5Z0124	AA
R5		CHIP RES.(1608) 1/10W 0 Ω	9HSRXAZR5Z0000	AA
R6		CHIP RES.(1608) 1/10W 0 Ω	9HSRXAZR5Z0000	AA
MISCELLANEOUS				
X1		XTAL 18.432MHz	9HSXD186LLN001	AE

DECK MECHANISM SECTION

VCR/DVD COMBINATION

DV-NC200S(S)/DV-NC200(RU)/DV-NC200S(B)

TABLE OF CONTENTS

1. STANDARD MAINTENANCE	2-1-1
2. SERVICE FIXTURE AND TOOLS	2-2-1
3. MECHANICAL ALIGNMENT PROCEDURES	2-3-1
4. DISASSEMBLY / ASSEMBLY PROCEDURES OF DECK MECHANISM	2-4-1
5. ALIGNMENT PROCEDURES OF MECHANISM	2-5-1
6. DECK EXPLODED VIEWS	2-6-1
7. DECK PARTS LIST	2-7-1

STANDARD MAINTENANCE

Service Schedule of Components

This maintenance chart shows you the standard of replacement and cleaning time for each part.
Because those may replace depending on environment and purpose for use, use the chart for reference.

H: Hours ○: Cleaning ●: Replace

Deck		Periodic Service Schedule			
Ref. No.	Part Name	1,000 H	2,000 H	3,000 H	4,000 H
B2	Cylinder Assembly	○	●	○	●
B3	Loading Motor Assembly			●	
B8	Pulley Assembly		●		●
B587	Tension Lever Assembly		●		●
B31	ACE Head Assembly			●	
B573, B574	Reel S, Reel T			●	
B37	Capstan Motor		●		●
B52	Cap Belt		●		●
B73	FE Head			●	
B86	F Brake Assembly (HI)		●		●
B133	Idler Assembly (HI)		●		●
B410	Pinch Arm Assembly		●		●
B414	M Brake (SP) Assembly (HI)		●		●
B416	M Brake (TU) Assembly (HI)		●		●
B525	LDG Belt		●		●

Notes:

1. Clean all parts for the tape transport (Upper Drum with Video Head / Pinch Roller / ACE Head / FE Head) using 90% ethyl alcohol.
2. After cleaning the parts, do all DECK ADJUSTMENTS.
3. For the reference numbers listed above, refer to Deck Exploded Views.

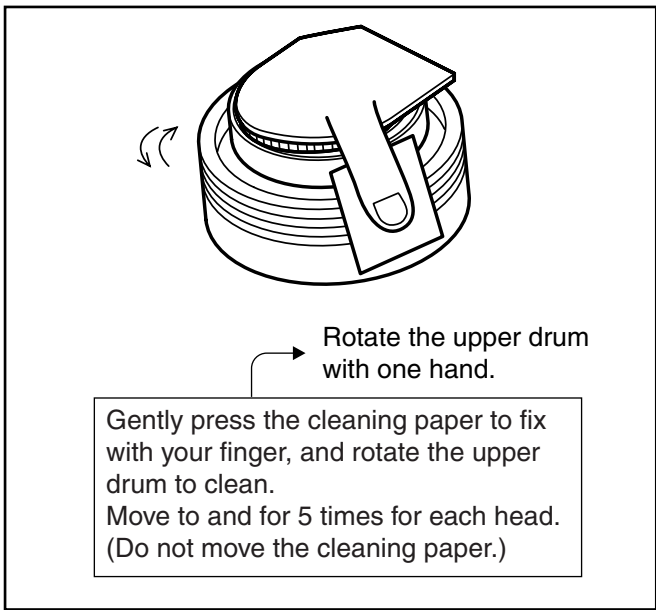
Cleaning

Video head cleaning procedure

1. Apply one drop of cleaning liquid to the cleaning paper with the baby oiler.
2. Gently press the cleaning paper against the video head to fix your finger, and move the upper drum so that each head is passed to and for 5 times (do not move the cleaning paper).
3. Wipe with the dry cleaning paper.

Notes :

- Use the commercially available ethanol of Class 1 as cleaning liquid.
- Since the video head may be damaged, do not move up and down the cleaning paper.
- Whenever the video head is cleaned, replace the cleaning paper.
- Do not apply this procedure for the parts other than the video head.



Parts Code	Description	Code
ZPAPRA56-001E	Cleaning Paper	AW
ZOiLR-02-24TE	Babe Oiler (Spoit)	AH

Cleaning of ACE Head

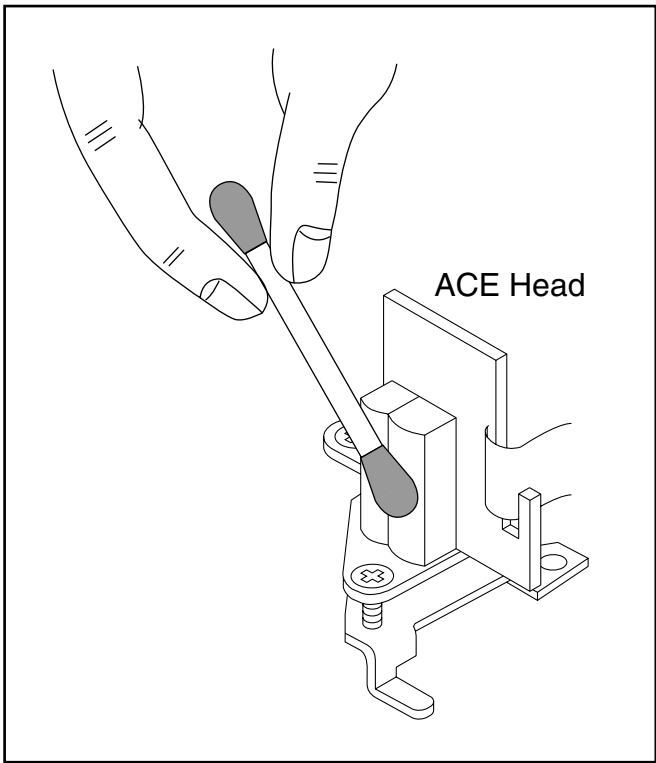
Clean the head with a cotton swab.

Procedure

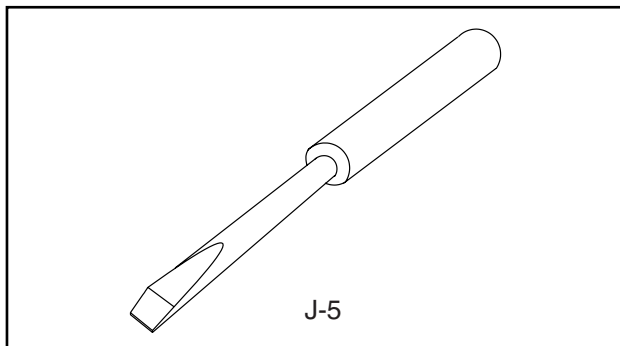
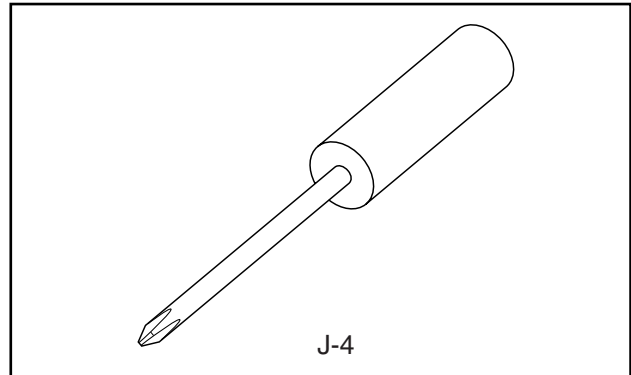
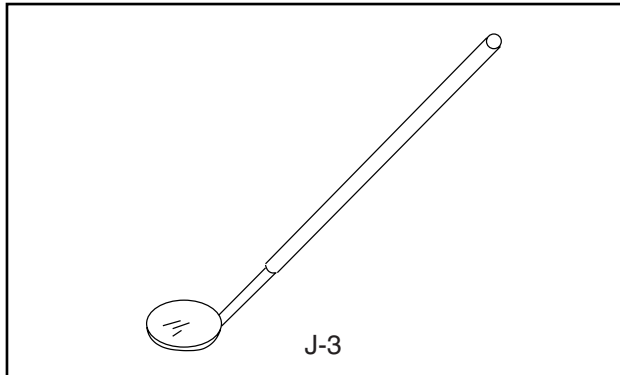
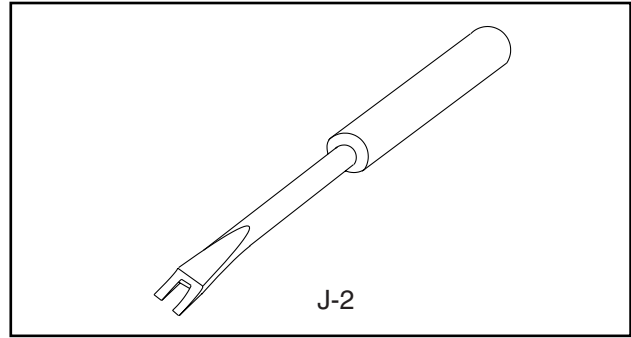
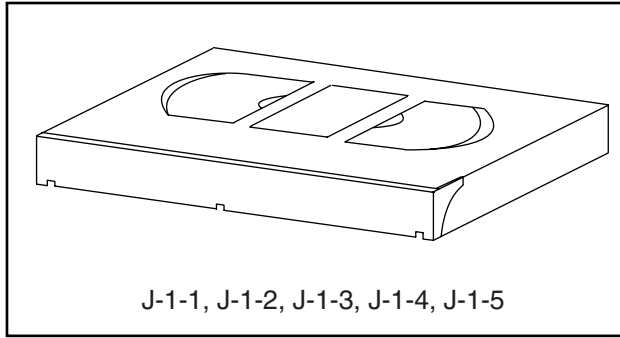
1. Remove the top cabinet.
2. Dip the cotton swab in 90% ethyl alcohol and clean the ACE Head. Be careful not to damage the upper drum and other tape running parts.

Notes:

1. Avoid cleaning the ACE Head vertically.
2. Wait for the cleaned part to dry thoroughly before operating the unit or damage may occur.



SERVICE FIXTURE AND TOOLS



Ref. No.	Name	Parts No.	Code	Adjustment
J-1-1	Test Tape	9HSFL6A	BX	Head Adjustment of ACE Head
J-1-2	Test Tape	9HSFL6NS8	BX	Azimuth and X Value Adjustment of ACE Head / Adjustment of Envelope Waveform
J-1-3	Test Tape	9HSFL6HA	BX	For Measurement of Hi-Fi Output Level
J-1-4	Test Tape	9HSFL6M	BX	For Measurement of Resolution
J-1-5	Test Tape	9HSFL6K	BX	For Measurement of Audio Frequency Response
J-2	Guide Roller Adj. Screwdriver	Available Locally	---	Guide Roller
J-3	Mirror	Available Locally	---	Tape Transportation Check
J-4	Azimuth Adj. Screwdriver +	Available Locally	---	ACE Head Height
J-5	Flat Screwdriver	Available Locally	---	X Value

MECHANICAL ALIGNMENT PROCEDURES

Explanation of alignment for the tape to correctly run starts on the next page. Refer to the information below on this page if a tape gets stuck, for example, in the mechanism due to some electrical trouble of the unit.

Service Information

A. Method for Manual Tape Loading/Unloading

To load a cassette tape manually:

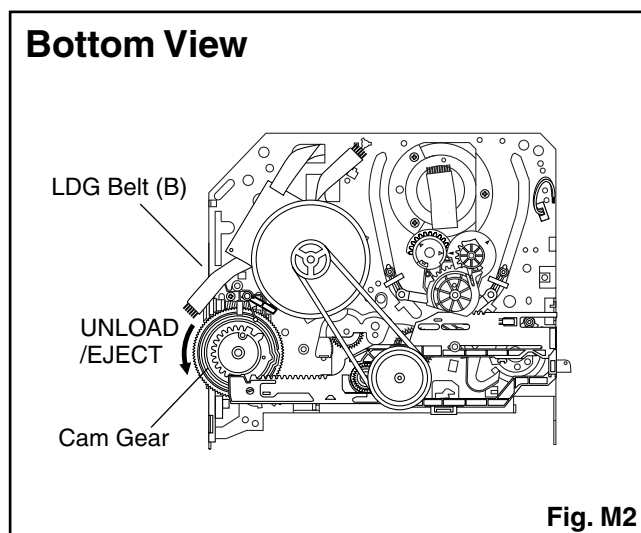
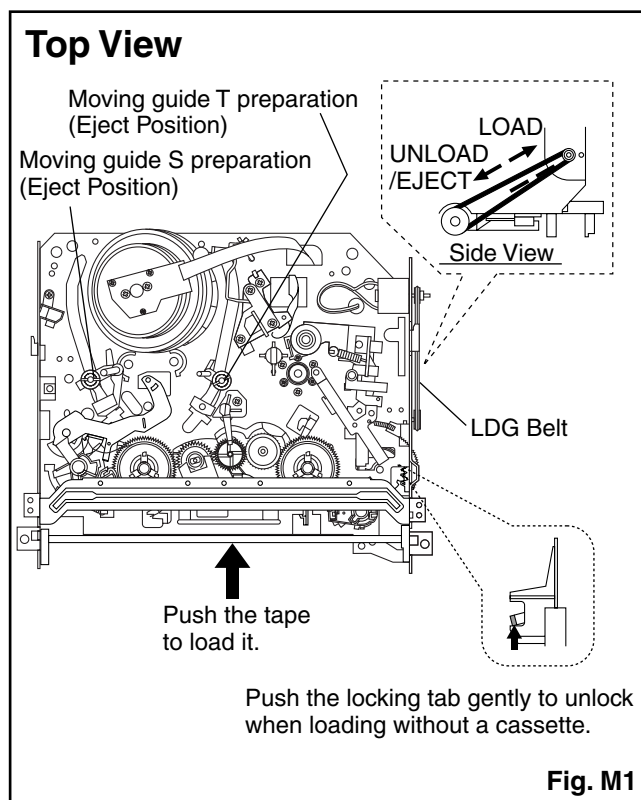
1. Disconnect the AC plug.
2. Remove the Top Case and Front Assembly.
3. Insert a cassette tape. Though the tape will not be automatically loaded, make sure that the cassette tape is all the way in at the inlet of the Cassette Holder. To confirm this, lightly push the cassette tape further in and see if the tape comes back out, by a spring motion, just as much as you have pushed in.
4. Turn the LDG Belt in the appropriate direction shown in Fig. M1 for a minute or two to complete this task.

To unload a cassette tape manually:

1. Disconnect the AC plug.
2. Remove the Top Case and Front Assembly.
3. Make sure that the Moving guide preparations are in the Eject Position.
4. Turn the LDG Belt in the appropriate direction shown in Fig. M1 until the Moving guide preparations come to the Eject Position. Stop turning when the preparations begin clicking or can not be moved further. However, the tape will be left wound around the cylinder.
5. Turn the LDG Belt in the appropriate direction continuously, and the cassette tape will be ejected. Allow a minute or two to complete this task.

B. Method to place the Cassette Holder in the tape-loaded position without a cassette tape

1. Disconnect the AC Plug.
2. Remove the Top Case and Front Assembly.
3. Turn the LDG Belt in the appropriate direction shown in Fig. M1. Release the locking tabs shown in Fig. M1 and continue turning the LDG Belt until the Cassette Holder comes to the tape-loaded position. Allow a minute or two to complete this task.



1. Tape Interchangeability Alignment

Note:

To do these alignment procedures, make sure that the Tracking Control Circuit is set to the preset position every time a tape is loaded or unloaded. (Refer to page 2-3-4, procedure 1-C, step 2.)

Equipment required:

Dual Trace Oscilloscope

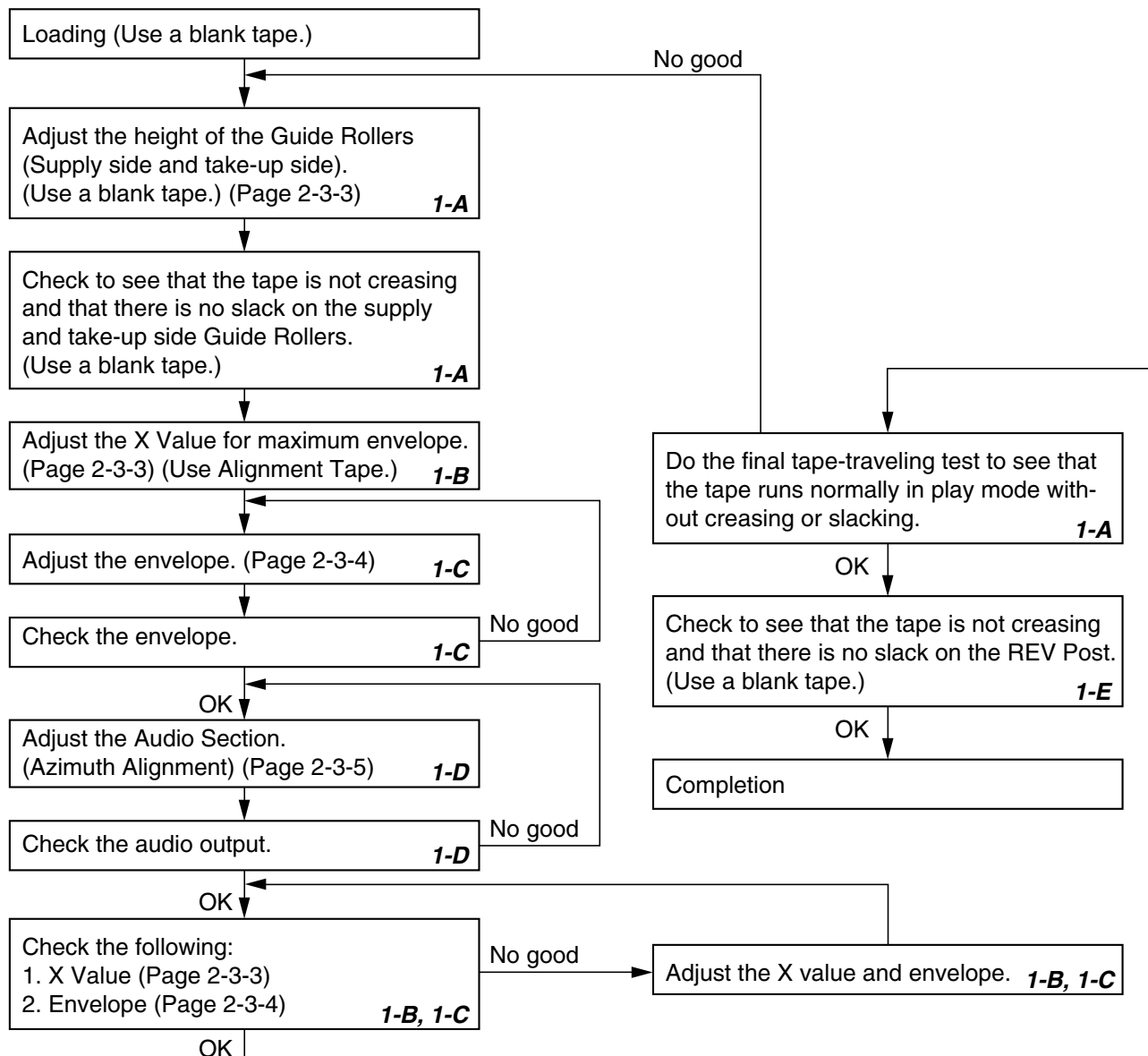
VHS Test Tape (9HSFL6NS8) (Refer to "SERVICE FIXTURE AND TOOLS" section.)

Guide Roller Adj. Screwdriver

Flat Screwdriver (Purchase Locally)

Note: Before starting this Mechanical Alignment, do all Electrical Adjustment procedures.

Flowchart of Alignment for tape traveling



1-A. Preliminary/Final Checking and Alignment of Tape Path

Purpose:

To make sure that the tape path is well stabilized.

Symptom of Misalignment:

If the tape path is unstable, the tape will be damaged.

Note: Do not use an Test Tape for this procedure. If the unit is not correctly aligned, the tape may be damaged.

1. Playback a blank cassette tape and check to see that the tape runs without creasing at Guide Rollers [2] and [3], and at points A and B on the lead surface. (Refer to Fig. M3 and M4.)
2. If creasing is apparent, align the height of the guide rollers by turning the top of Guide Rollers [2] and [3] with a Guide Roller Adj. Screwdriver. (Refer to Fig. M3 and M5.)

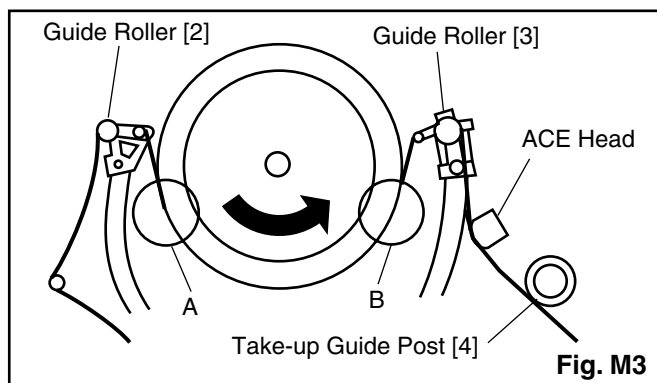


Fig. M3

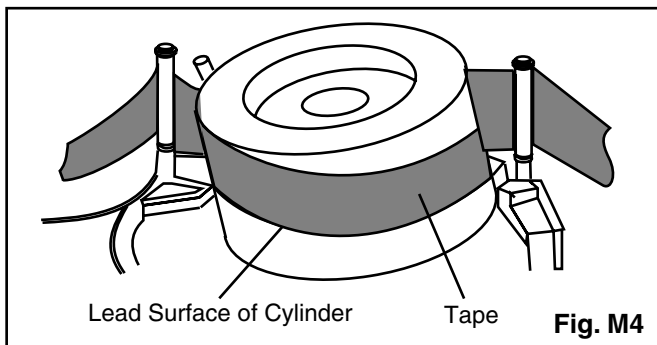


Fig. M4

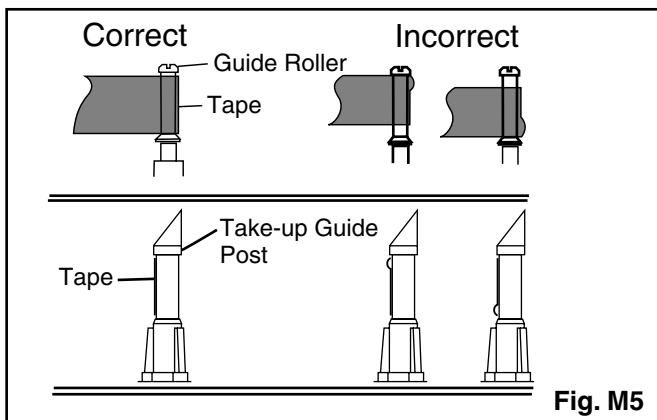


Fig. M5

3. Check to see that the tape runs without creasing at Take-up Guide Post [4] or without snaking between Guide Roller [3] and ACE Head. (Fig. M3 and M5)
4. If creasing or snaking is apparent, adjust the Tilt Adj. Screw of the ACE Head. (Fig. M6)

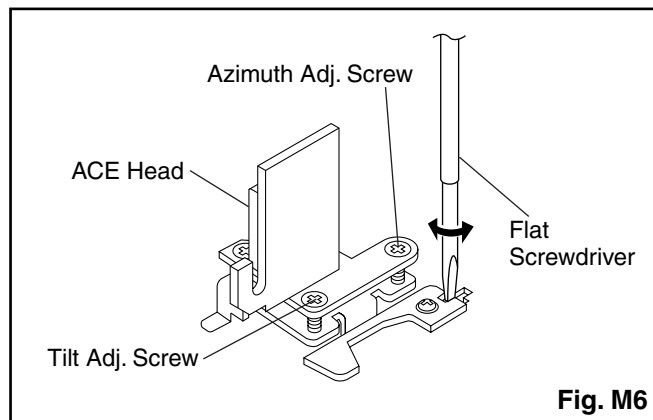


Fig. M6

1-B. X Value Alignment

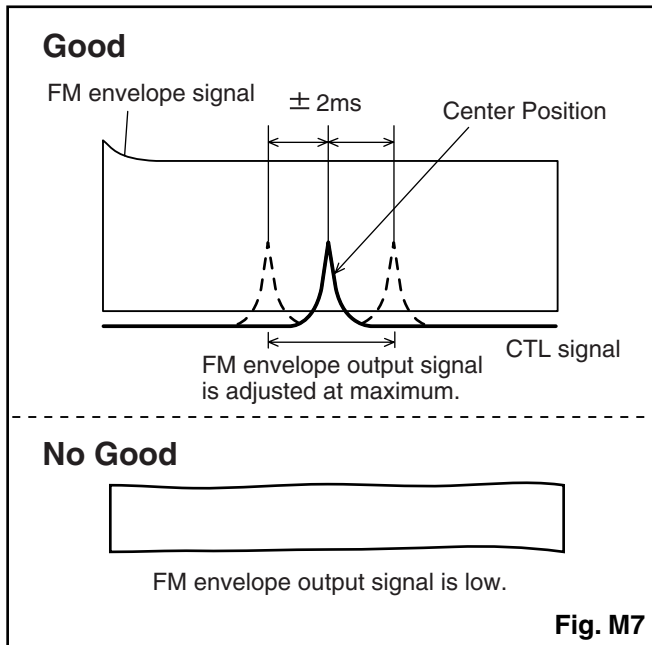
Purpose:

To obtain maximum PB FM envelope signal at the preset position of the Tracking Control Circuit, align the Horizontal Position of the ACE Head.

Symptom of Misalignment:

If the Horizontal Position of the ACE Head is not properly aligned, maximum PB FM envelope cannot be obtained at the preset position of the Tracking Control Circuit.

1. Connect the oscilloscope to TP301 (C-PB) and TP503 (CTL) on the Main CBA. Use TP504 (RF-SW) as a trigger.
2. Playback the Gray Scale of the Test Tape (9HSFL6NS8) and confirm that the PB FM signal is present.
3. Set the Tracking Control Circuit to the preset position by pressing CH ▲ button then "PLAY" button on the unit. (Refer to note on bottom of page 2-3-4.)
4. Use the Flat Screwdriver so that the PB FM signal at TP301 (C-PB) is maximum. (Fig. M6)
5. To shift the CTL waveform, press CH ▲ or CH ▼ button on the unit. Then make sure that the maximum output position of PB FM envelope signal become within $\pm 2\text{ms}$ from preset position.



- Set the Tracking Control Circuit to the preset position by pressing CH ▲ button and then "PLAY" button on the unit.

1-C. Checking/Adjustment of Envelope Waveform

Purpose:

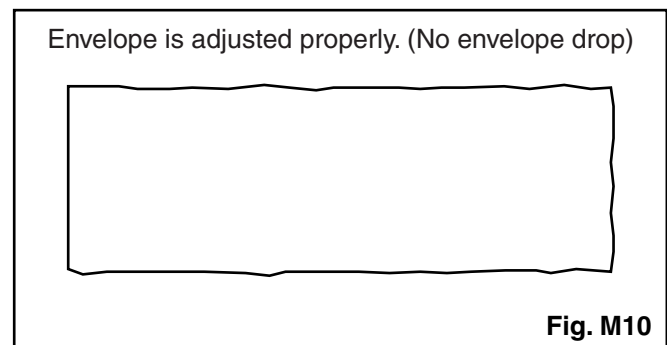
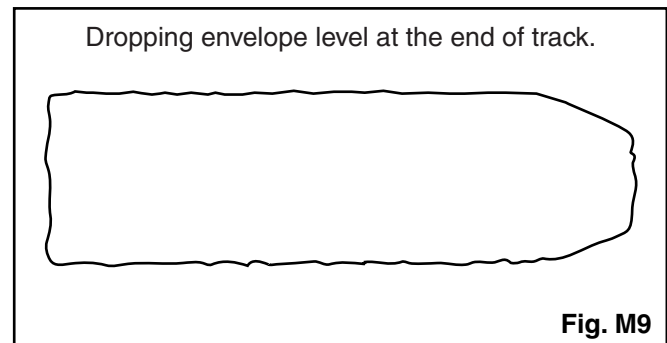
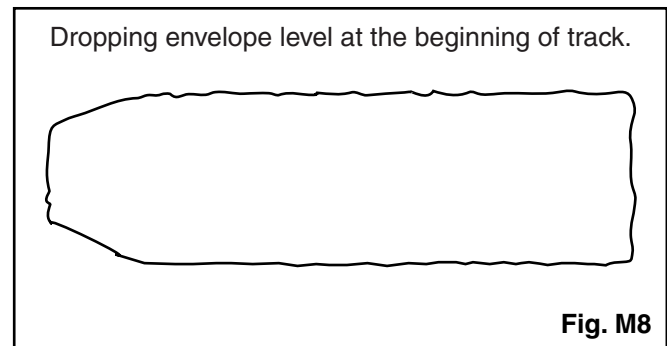
To achieve a satisfactory picture, adjust the PB FM envelope becomes as flat as possible.

Symptom of Misalignment:

If the envelope output is poor, noise will appear in the picture. The tracking will then lose precision and the playback picture will be distorted by any slight variation of the Tracking Control Circuit.

- Connect the oscilloscope to TP301 (C-PB) on the Main CBA. Use TP504 (RF-SW) as a trigger.
- Playback the Gray Scale on the Test Tape (9HSFL6NS8). Set the Tracking Control Circuit to the preset position by pressing CH ▲ button and then "PLAY" button on the unit. Adjust the height of Guide Rollers [2] and [3] (Fig. M3, Page 2-3-3) watching the oscilloscope display so that the envelope becomes as flat as possible. To do this adjustment, turn the top of the Guide Roller with the Guide Roller Adj. Screwdriver.
- If the envelope is as shown in Fig. M7, adjust the height of Guide Roller [2] (Refer to Fig. M3) so that the waveform looks like the one shown in Fig. M9.
- If the envelope is as shown in Fig. M8, adjust the height of Guide Roller [3] (Refer to Fig. M3) so that the waveform looks like the one shown in Fig. M9.

- When Guide Rollers [2] and [3] (Refer to Fig. M3) are aligned properly, there is no envelope drop either at the beginning or end of track as shown in Fig. M9.



Note: Upon completion of the adjustment of Guide Rollers [2] and [3] (Refer to Fig. M3), check the X Value by pushing the CH ▲ or ▼ buttons alternately, to check the symmetry of the envelope. Check the number of pushes to ensure preset position. The number of pushes CH ▲ button to achieve 1/2 level of envelope should match the number of pushes CH ▼ button from center. If required, redo the "X Value Alignment."

1-D. Azimuth Alignment of Audio/Control/ Erase Head

Purpose:

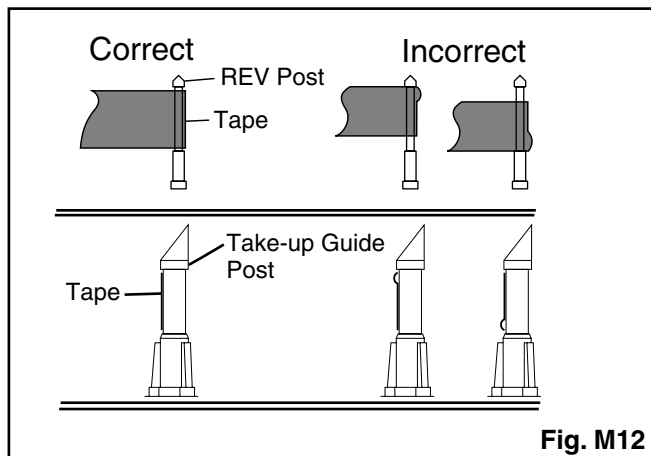
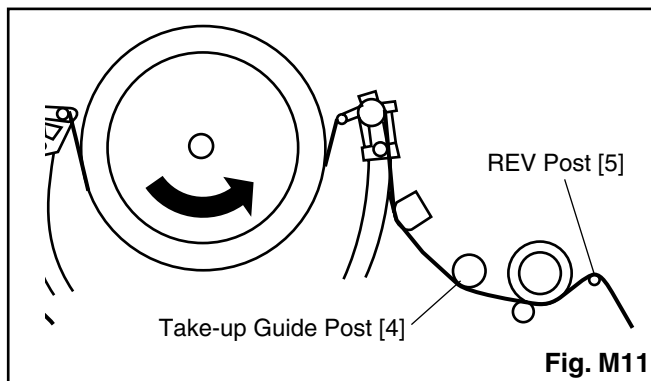
To correct the Azimuth alignment so that the Audio/Control/Erase Head meets tape tracks properly.

Symptom of Misalignment:

If the position of the Audio/Control/Erase Head is not properly aligned, the Audio S/N Ratio or Frequency Response will be poor.

1. Connect the oscilloscope to the audio output jack on the rear side of the deck.
2. Playback the Test Tape (9HSFL6NS8) and confirm that the audio signal output level is 8kHz.
3. Adjust Azimuth Adj. Screw so that the output level on the AC Voltmeter or the waveform on the oscilloscope is at maximum. (Fig. M6)

Note: Upon completion of the adjustment of Azimuth Adj. Screw, check the X Value by pushing the CH ▲ or ▼ buttons alternately, to check the symmetry of the envelope. Check the number of pushes to ensure preset position. The number of pushes CH ▲ button to achieve 1/2 level of envelope should match the number of pushes CH ▼ button from center. If required, redo the "X Value Alignment."



1-E. Checking and Alignment of Tape Path during reversing

Purpose:

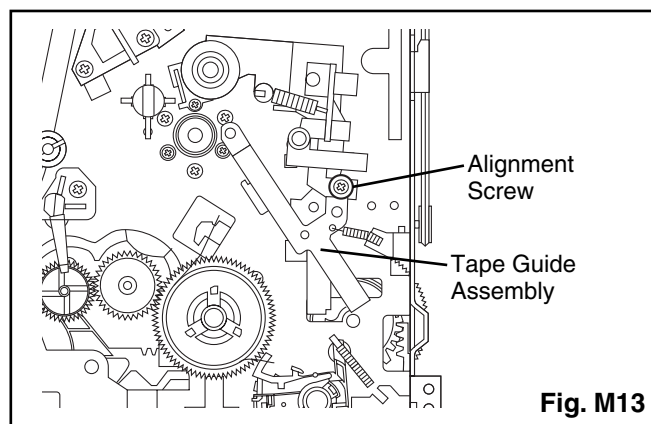
To make sure that the tape path is well stabilized during reversing.

Symptom of Misalignment:

If the tape path is unstable during reversing, the tape will be damaged.

Note: Do not use an Test Tape for this procedure. If the unit is not correctly aligned, the tape may be damaged.

1. Insert a blank cassette tape into the tray and set the unit to REV. Then confirm if the tape has been curled up or bent at the Take-up Guide Post [4] or REV Post [5] (Refer to Fig. M11 and M12.)
2. When the tape has been curled up or bent, turn the alignment screw to adjust the height of REV Post. (Refer to Fig. M11 and M13.)



DISASSEMBLY/ASSEMBLY PROCEDURES OF DECK MECHANISM

Before following the procedures described below, be sure to remove the deck assembly from the cabinet. (Refer to CABINET DISASSEMBLY INSTRUCTIONS.)

All the following procedures, including those for adjustment and replacement of parts, should be done in Eject mode; see the positions of [44] and [45] in Fig. DM1H on page 2-4-3. When reassembling, follow the steps in reverse order.

STEP /LOC. No.	START-ING No.	PART		REMOVAL		INSTALLATION
				Fig. No.	REMOVE/*UNHOOK/ UNLOCK/RELEASE/ UNPLUG/DESOLDER	ADJUSTMENT CONDITION
[1]	[1]	Guide Holder A	T	DM3H	2(S-1)	
[2]	[1]	Cassette Holder Assembly	T	DM4H		
[3]	[2]	Slider (SP)	T	DM5H	(S-1A), *(L-1)	
[4]	[2]	Slider (TU)	T	DM5H	*(L-2)	
[5]	[4]	Lock Lever	T	DM5H	*(L-3), *(P-1)	
[6]	[2]	Cassette Plate	T	DM5H		
[7]	[7]	Cylinder Assembly	T	DM1H, DM6H	Desolder, 3(S-2)	
[8]	[8]	Loading Motor Assembly	T	DM1H, DM7H	Desolder, LDG Belt, 2(S-3)	
[9]	[9]	ACE Head Assembly	T	DM1H, DM7H	(S-4)	
[10]	[2]	Tape Guide Arm Assembly	T	DM1H, DM8H-1	*(P-2)	
[11]	[10]	C Door Opener	T	DM1H, DM8H-1	(S-4A), *(L-4)	
[12]	[11]	Pinch Arm (B)	T	DM1H, DM8H-1, DM8H-2	*(P-3)	
[13]	[12]	Pinch Arm (A) Assembly	T	DM1H, DM8H-1, DM8H-2		
[14]	[14]	FE Head	T	DM1H, DM9H	(S-5)	
[15]	[15]	Prism	T	DM1H, DM9H	(S-6)	
[16]	[2]	Slider Shaft	T	DM10H	*(L-5)	
[17]	[16]	C Drive Lever (SP)	T	DM10H		
[18]	[16]	C Drive Lever (TU)	T	DM10H	(S-7), *(P-4)	
[19]	[19]	Capstan Motor	B	DM2H, DM11H	3(S-8), Cap Belt	
[20]	[20]	Clutch Assembly (HI)	B	DM2H, DM12H	(C-1)	
[21]	[20]	Center Gear	B	DM12H		
[22]	[22]	F Brake Assembly (HI)	B	DM2H, DM12H	*(L-6)	
[23]	[22]	Worm Holder	B	DM2H, DM13H-1	(S-9), *(L-7), *(L-8)	
[24]	[22]	Pulley Assembly (HI)	B	DM2H, DM13H-1		
[25]	[25]	Mode Gear (LM)	B	DM2H, DM13H-1	(C-2)	
[26]	[20],[25]	Mode Lever (HI)	B	DM2H, DM13H-1, DM13H-2	(C-3)	
[27]	[22],[23], [26]	Cam Gear (A) (HI)	B	DM2H, DM13H-1, DM13H-2	(C-4)	(+)Refer to Alignment Sec. Page 2-5-1
[28]	[26]	TR Gear C	B	DM2H, DM13H-1	(C-5)	

STEP /LOC. No.	START-ING No.	PART		REMOVAL		INSTALLATION
				Fig. No.	REMOVE/*UNHOOK/UNLOCK/RELEASE/UNPLUG/DESOLDER	ADJUSTMENT CONDITION
[29]	[28]	TR Gear Spring	B	DM13H-1		
[30]	[29]	TR Gear A/B	B	DM13H-1		
[31]	[31]	FF Arm (HI)	B	DM1H, DM14H		
[32]	[26]	Idler Assembly (HI)	B	DM1H, DM14H	*(L-9)	
[33]	[26]	BT Arm	B	DM2H, DM14H	*(P-5)	
[34]	[26]	Loading Arm (SP) Assembly	B	DM2H, DM14H		(+)Refer to Alignment Sec.Page 2-5-1
[35]	[34]	Loading Arm (TU) Assembly	B	DM2H, DM14H		(+)Refer to Alignment Sec.Page 2-5-1
[36]	[16],[26]	M Brake (TU) Assembly (HI)	T	DM1H, DM15H		
[37]	[2],[26]	M Brake (SP) Assembly (HI)	T	DM1H, DM15H	*(P-6)	
[38]	[37]	Tension Lever Assembly	T	DM1H, DM15H		
[39]	[38]	T Lever Holder	T	DM15H	*(L-10)	
[40]	[40]	M Gear (HI)	T	DM1H, DM15H	(C-6)	
[41]	[15],[40]	Sensor Gear (HI)	T	DM1H, DM15H	(C-7)	
[42]	[36],[40]	Reel T	T	DM1H, DM15H		
[43]	[38]	Reel S	T	DM1H, DM15H		
[44]	[34],[38]	Moving Guide S Preparation	T	DM1H, DM16H	(S-11), Slide Plate	
[45]	[35]	Moving Guide T Preparation	T	DM1H, DM16H		
[46]	[19]	TG Post Assembly	T	DM1H, DM16H	*(L-11)	
[47]	[27]	Rack Assembly	R	DM17H		(+)Refer to Alignment Sec.Page 2-5-1
[48]	[47]	F Door Opener	R	DM17H		
[49]	[49]	Cleaner Assembly	T	DM1H, DM6H		
[50]	[49]	CL Post	T	DM6H	*(L-12)	

↓
(1)

↓
(2)

↓
(3)

↓
(4)

↓
(5)

↓
(6)

↓
(7)

- (1): Follow steps in sequence. When reassembling, follow the steps in reverse order.
These numbers are also used as identification (location) No. of parts in the figures.
- (2): Indicates the part to start disassembling with in order to disassemble the part in column (1).
- (3): Name of the part
- (4): Location of the part: T=Top B=Bottom R=Right L=Left
- (5): Figure Number
- (6): Identification of parts to be removed, unhooked, unlocked, released, unplugged, unclamped, or desoldered.
P=Spring, W=Washer, C=Cut Washer, S=Screw, *=Unhook, Unlock, Release, Unplug, or Desolder
e.g., 2(L-2) = two Locking Tabs (L-2).
- (7): Adjustment Information for Installation
(+):Refer to Deck Exploded Views for lubrication.

Top View

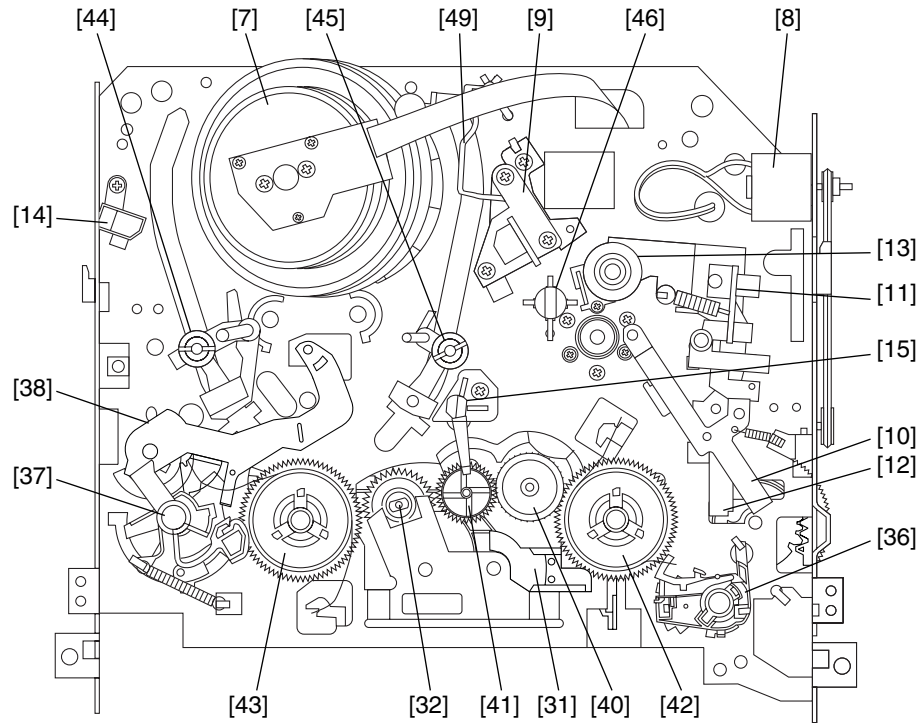


Fig. DM1H

Bottom View

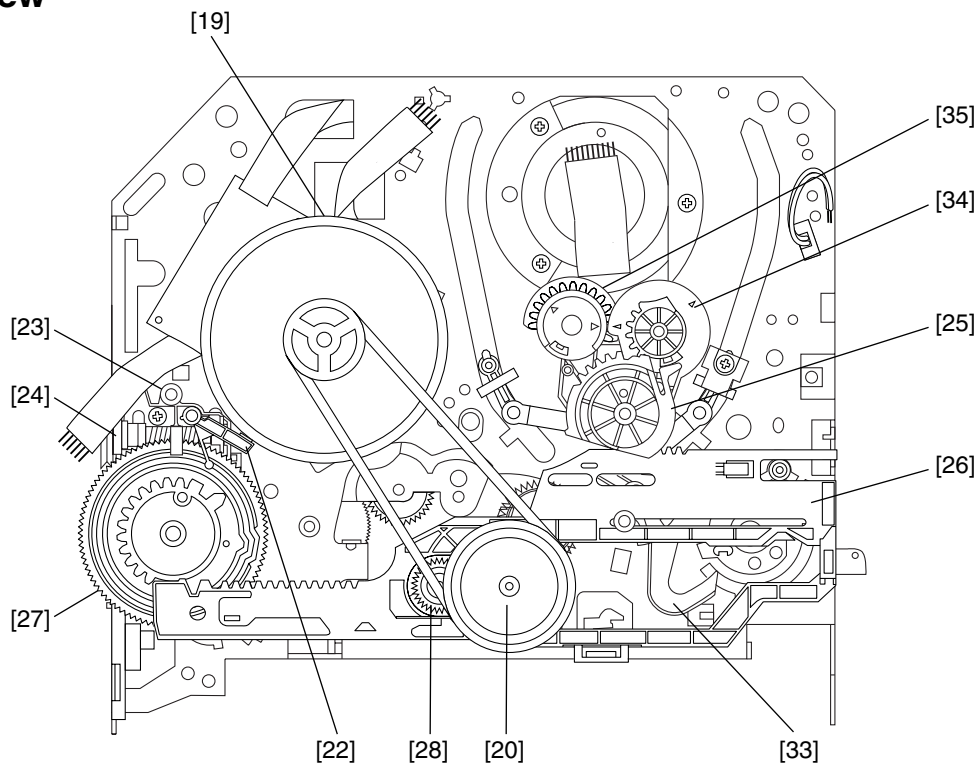
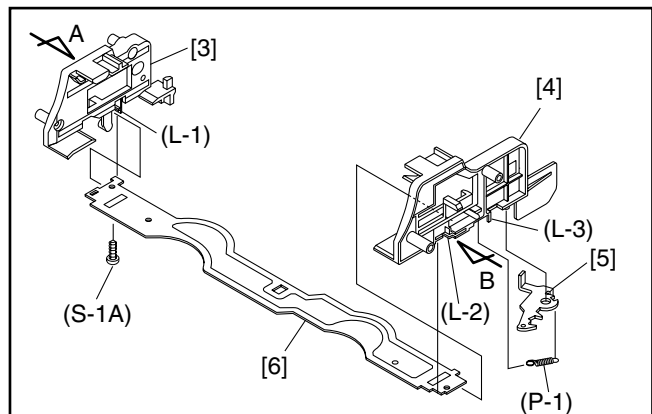
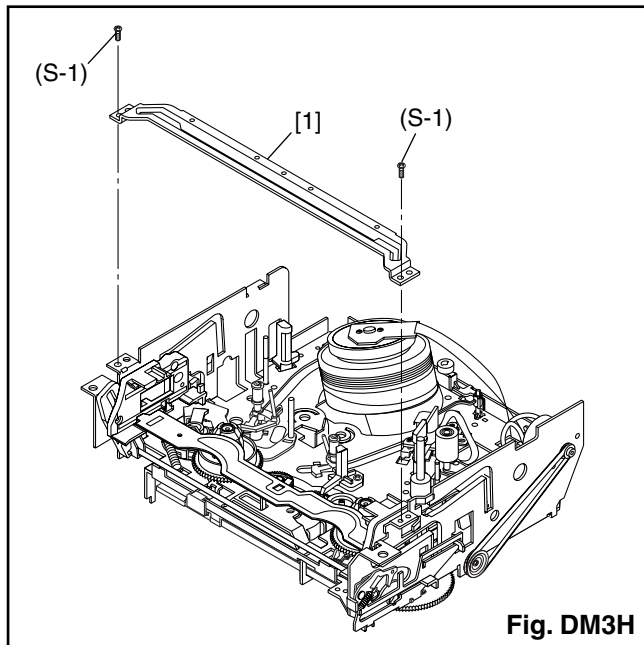
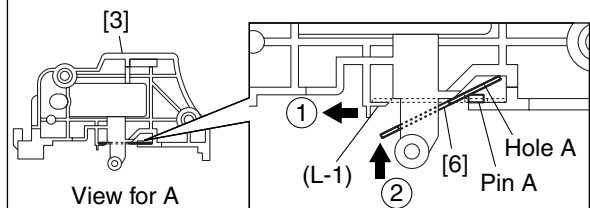


Fig. DM2H



Installation of [3] and [6]

First, insert [6] diagonally in [3] as shown below. Then, install [6] in [3] while pushing (L-1) in a direction of arrow. After installing [6] in [3], confirm that pin A of [3] enters hole A of [6] properly.



Installation of [4] and [6]

Install [6] in [4] while pulling (L-2) in a direction of arrow. After installing [6] in [4], confirm that pin B of [4] enters hole B of [6] properly.

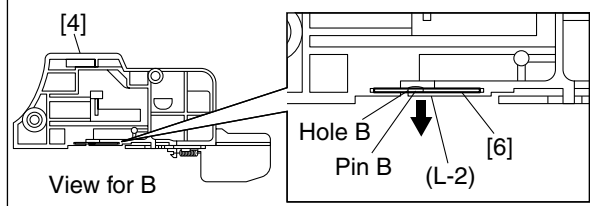
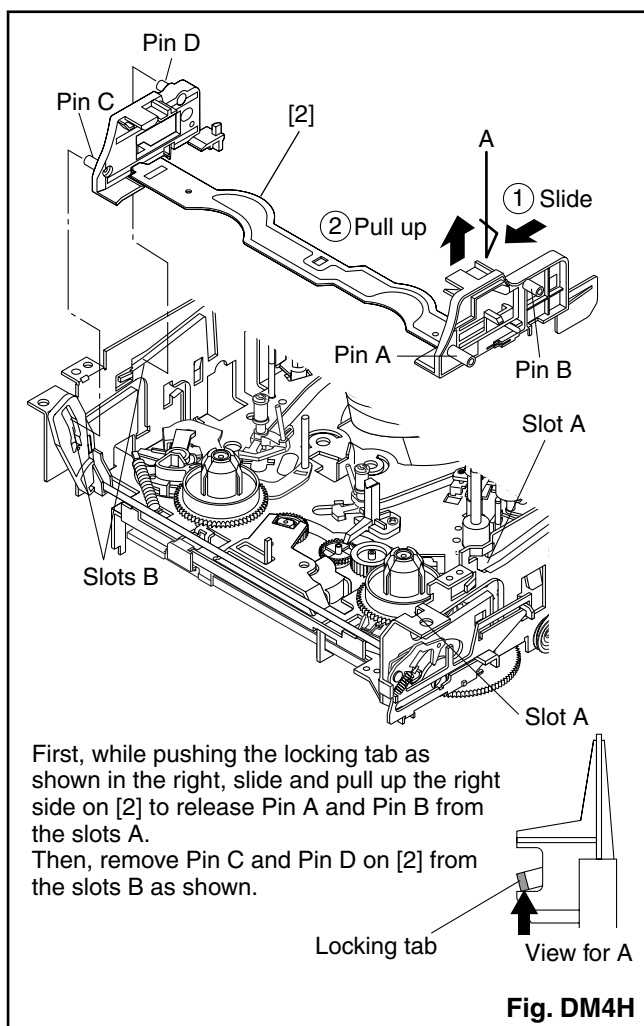


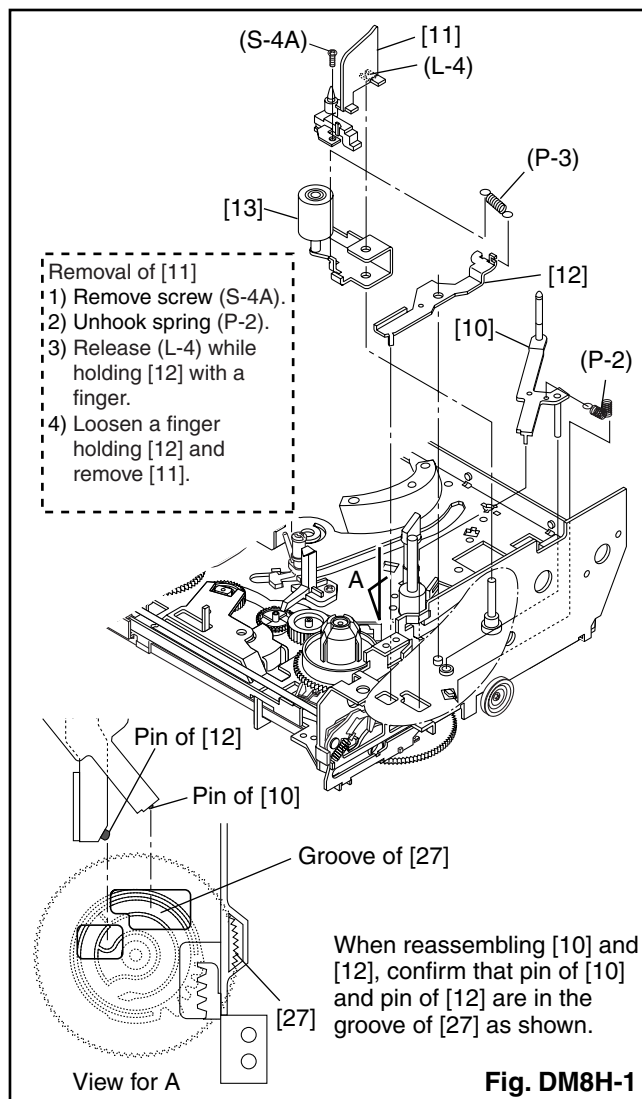
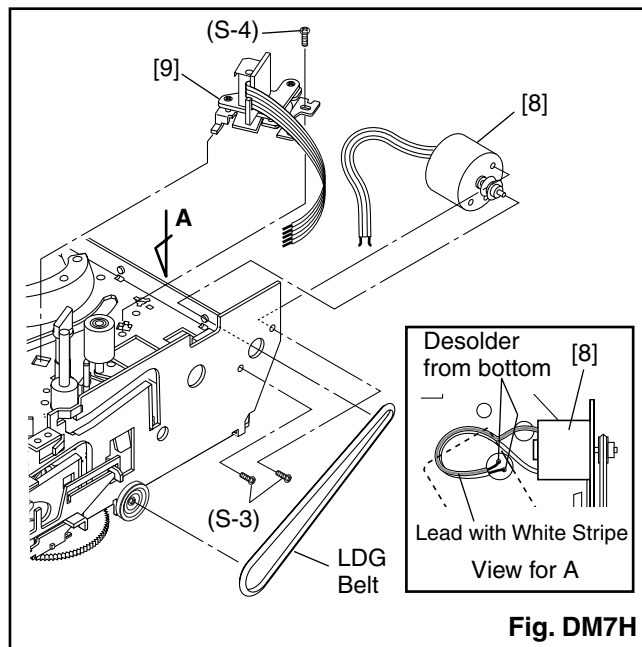
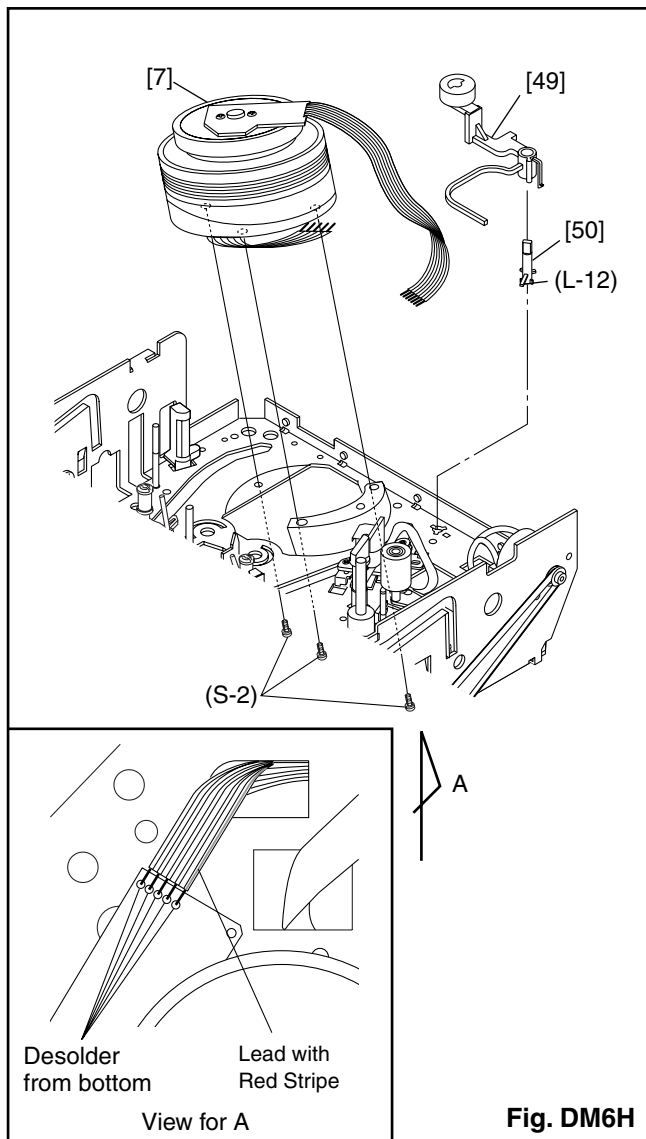
Fig. DM5H



First, while pushing the locking tab as shown in the right, slide and pull up the right side on [2] to release Pin A and Pin B from the slots A. Then, remove Pin C and Pin D on [2] from the slots B as shown.

Locking tab

View for A



Installation of [13] and [12]

Hook spring (P-3) up to [12] and [13], then install then to the specified position so that [12] will be floated slightly while holding [12] and [13]. (Refer to Fig. A.)

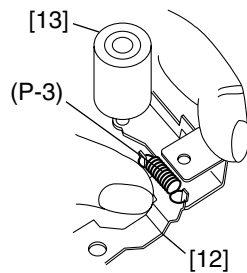


Fig. A

Install pin of [12] in groove of [27]. (Refer to Fig. B.)

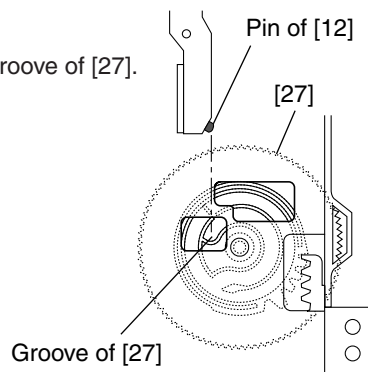


Fig. B (Top view)

Hold [12] and [13] till groove of pin of chassis looks and fit [13] in notch of chassis. Then, turn a few [13] while holding [12]. (Refer to Fig. C.)

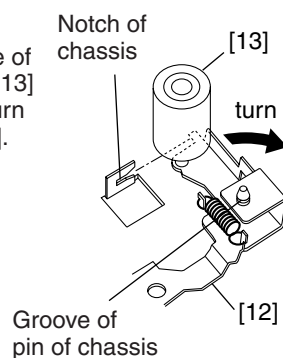


Fig. C

Install [11] and [10] while holding [12]. (Refer to Fig. DM8H-1.)

Fig. DM8H-2

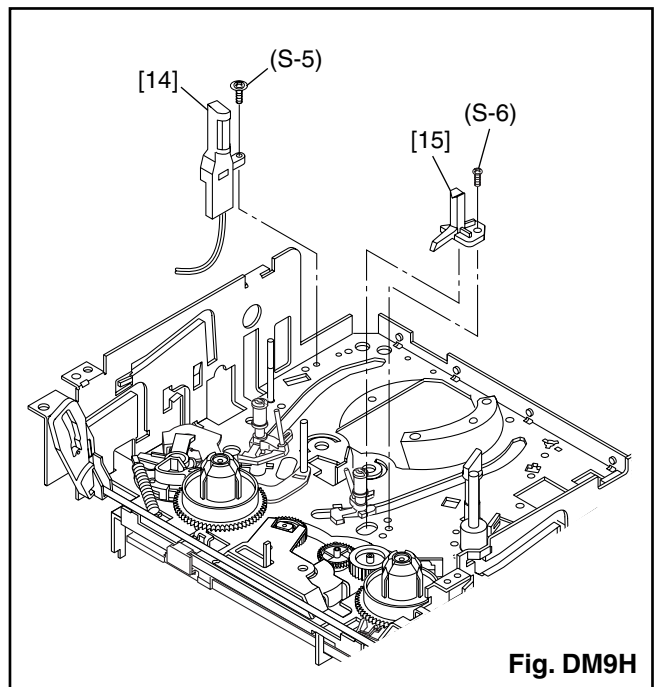


Fig. DM9H

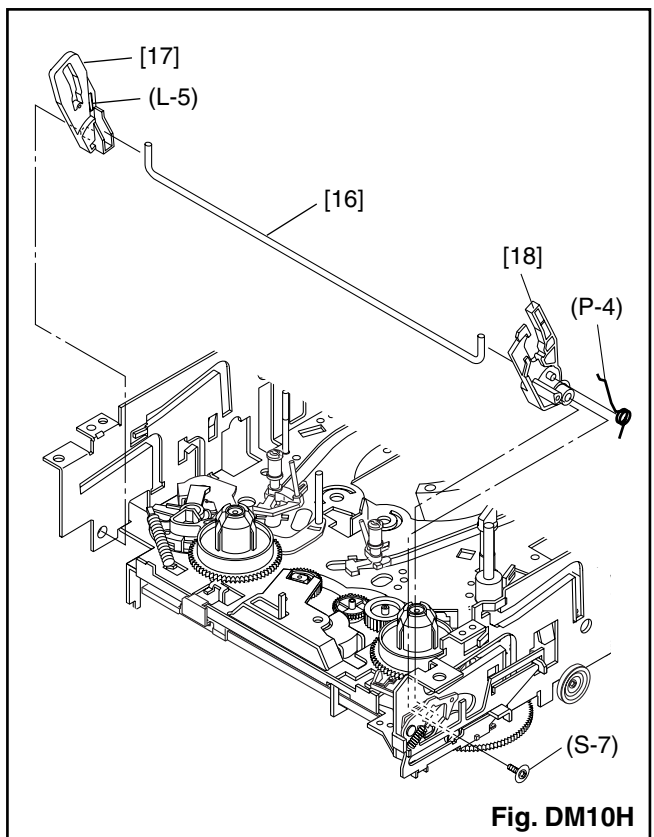
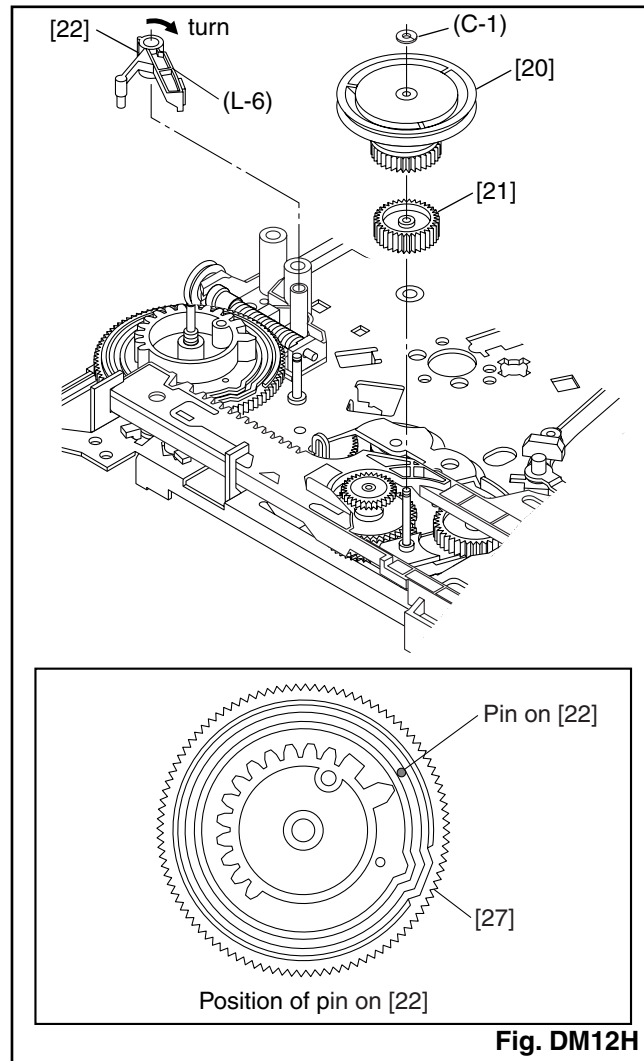
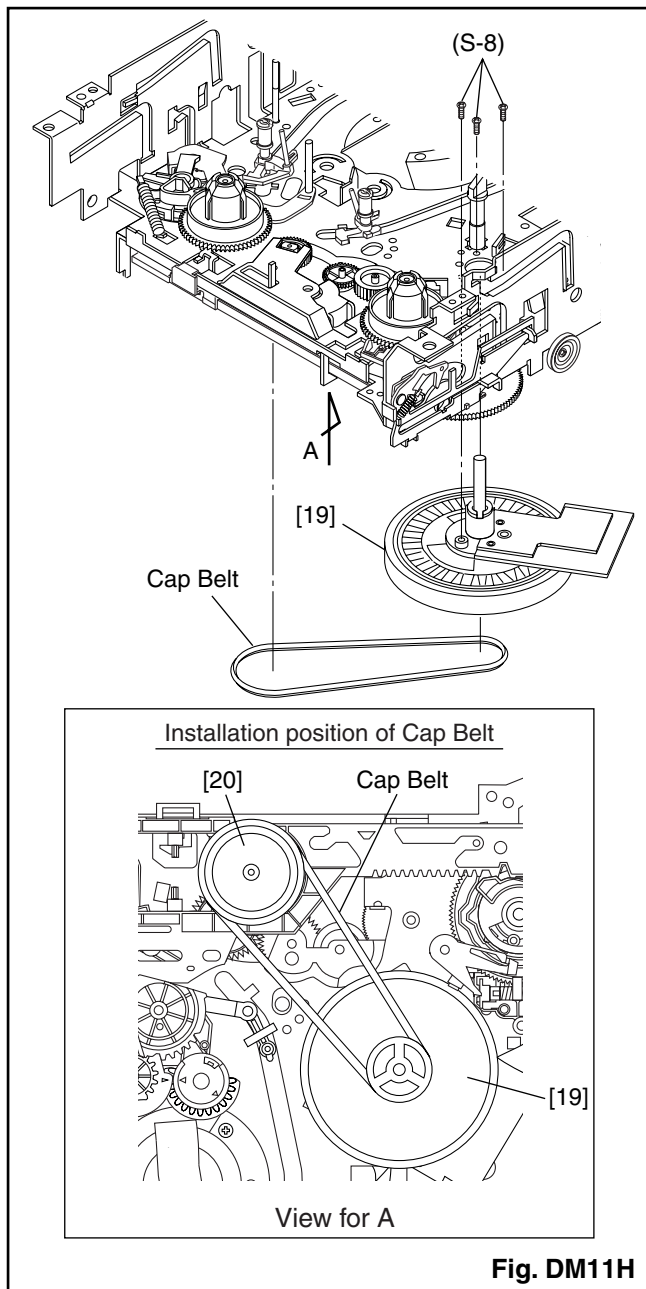
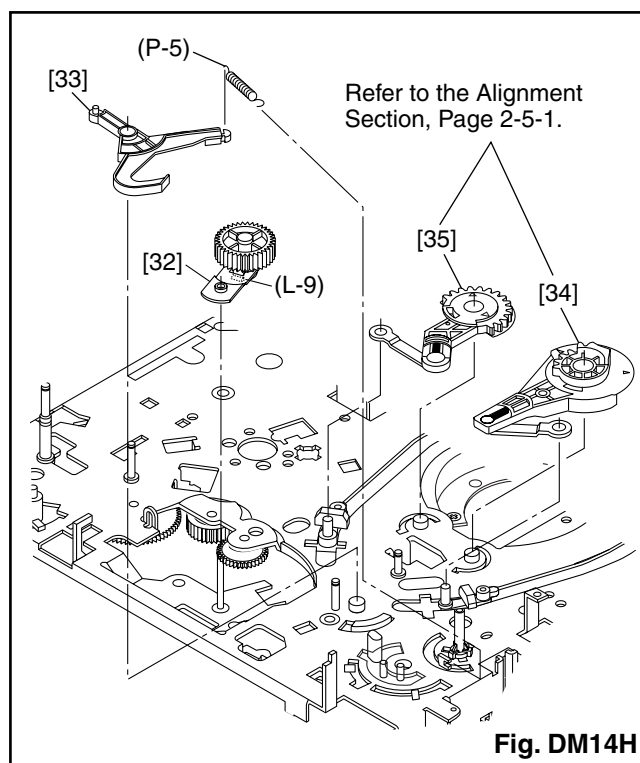
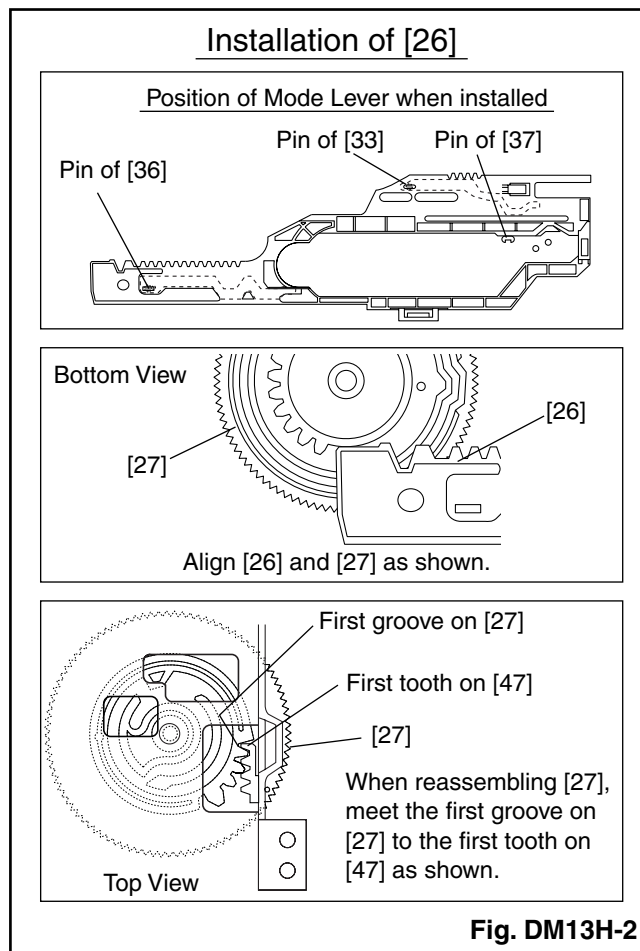
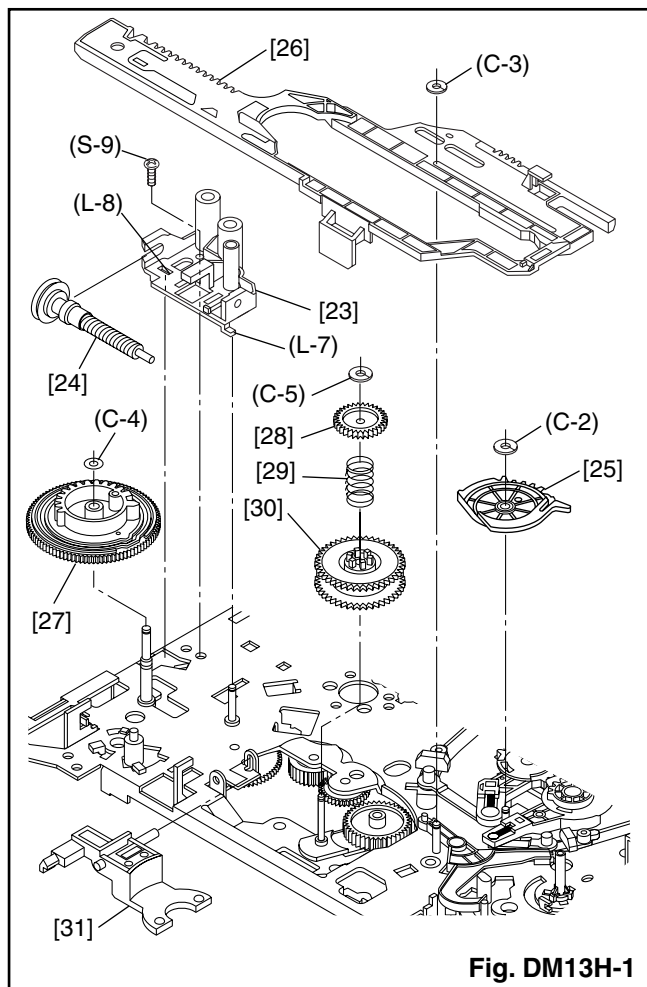
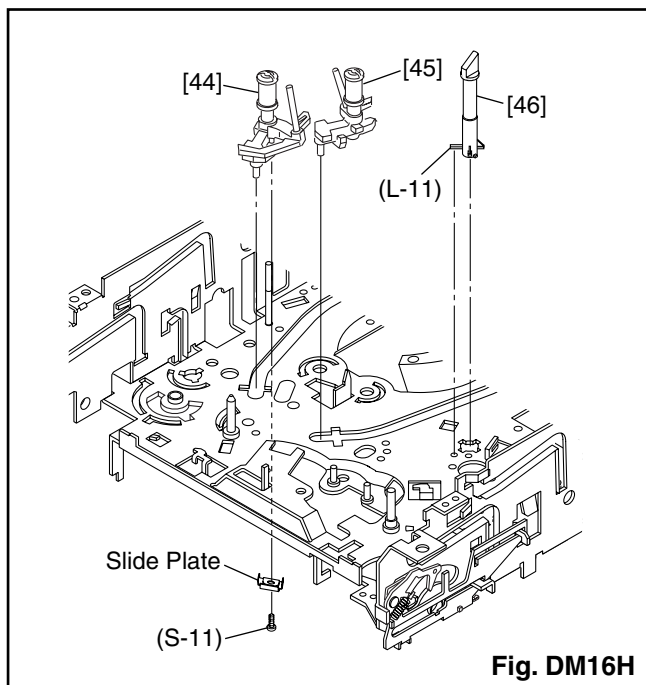
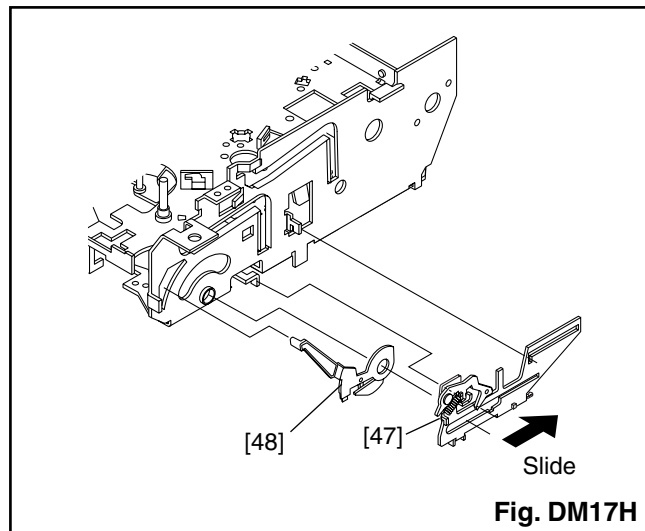
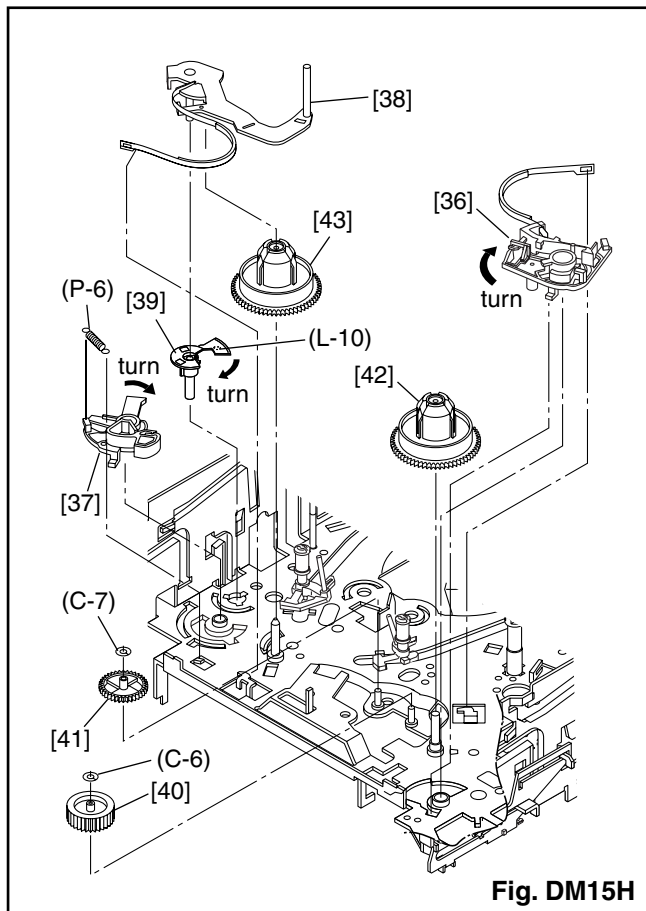


Fig. DM10H







ALIGNMENT PROCEDURES OF MECHANISM

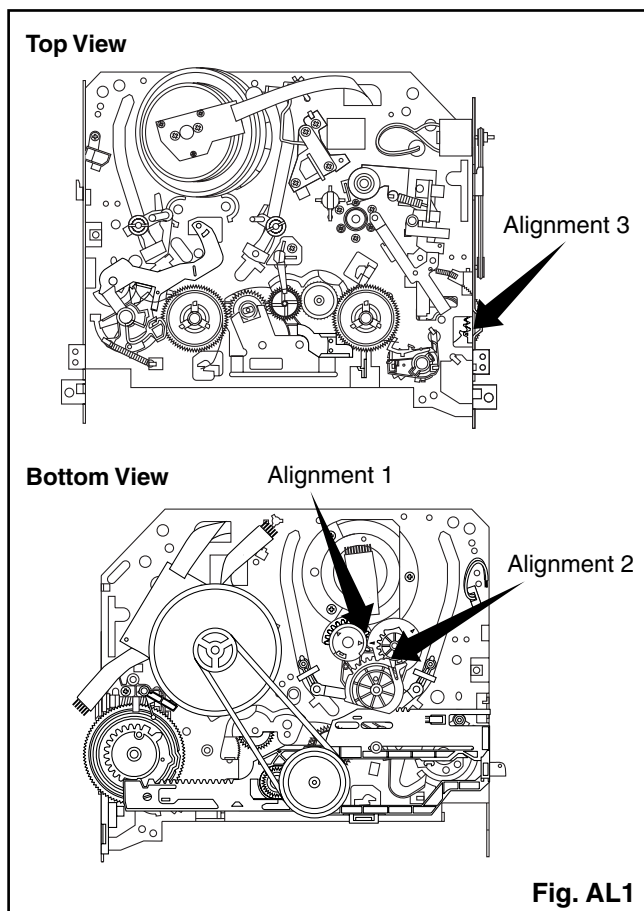
The following procedures describe how to align the individual gears and levers that make up the tape loading/unloading mechanism. Since information about the state of the mechanism is provided to the System Control Circuit only through the Mode Switch, it is essential that the correct relationship between individual gears and levers be maintained.

All alignments are to be performed with the mechanism in Eject mode, in the sequence given. Each procedure assumes that all previous procedures have been completed.

IMPORTANT:

If any one of these alignments is not performed properly, even if off by only one tooth, the unit will unload or stop and it may result in damage to the mechanical or electrical parts.

Alignment points in Eject Position



Alignment 1

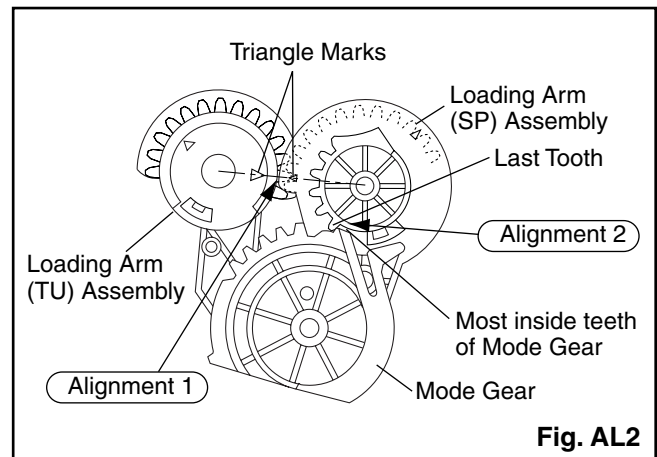
Loading Arm (SP) and (TU) Assembly

Install Loading Arm (SP) and (TU) Assembly so that their triangle marks point to each other as shown in Fig. AL2.

Alignment 2

Mode Gear

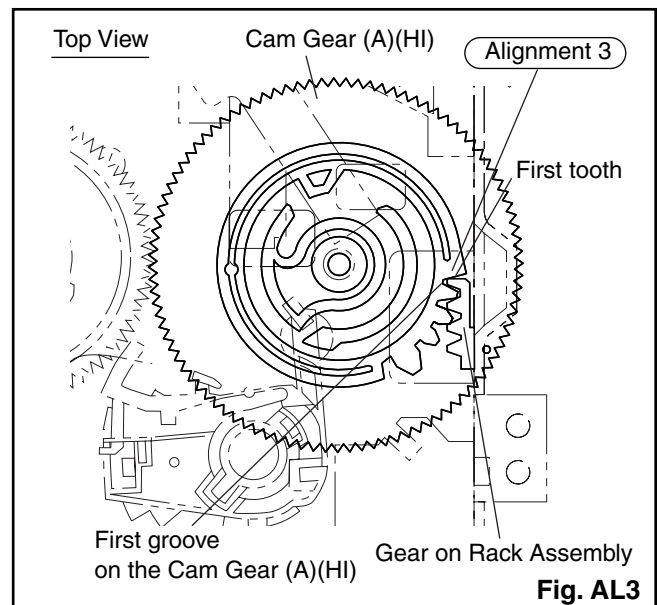
Keeping the two triangles pointing at each other, install the Loading Arm (SP) Assembly so that the last tooth of the gear meets the most inside teeth of the Mode Gear. See Fig. AL2.



Alignment 3

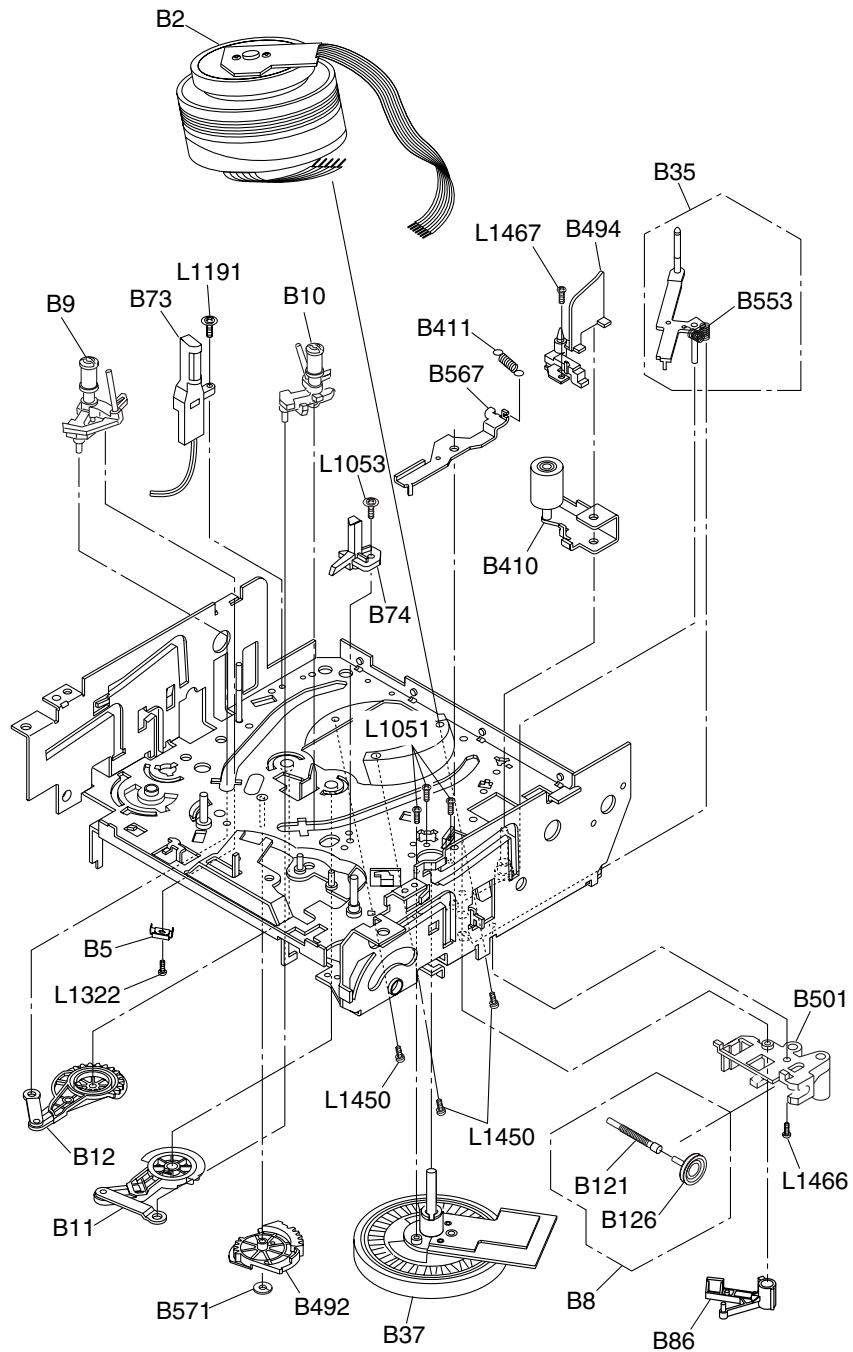
Cam Gear (A) (HI), Rack Assembly

Install the Rack Assembly so that the first tooth on the gear of the Rack Assembly meets the first groove on the Cam Gear (A) (HI) as shown in Fig. AL3.



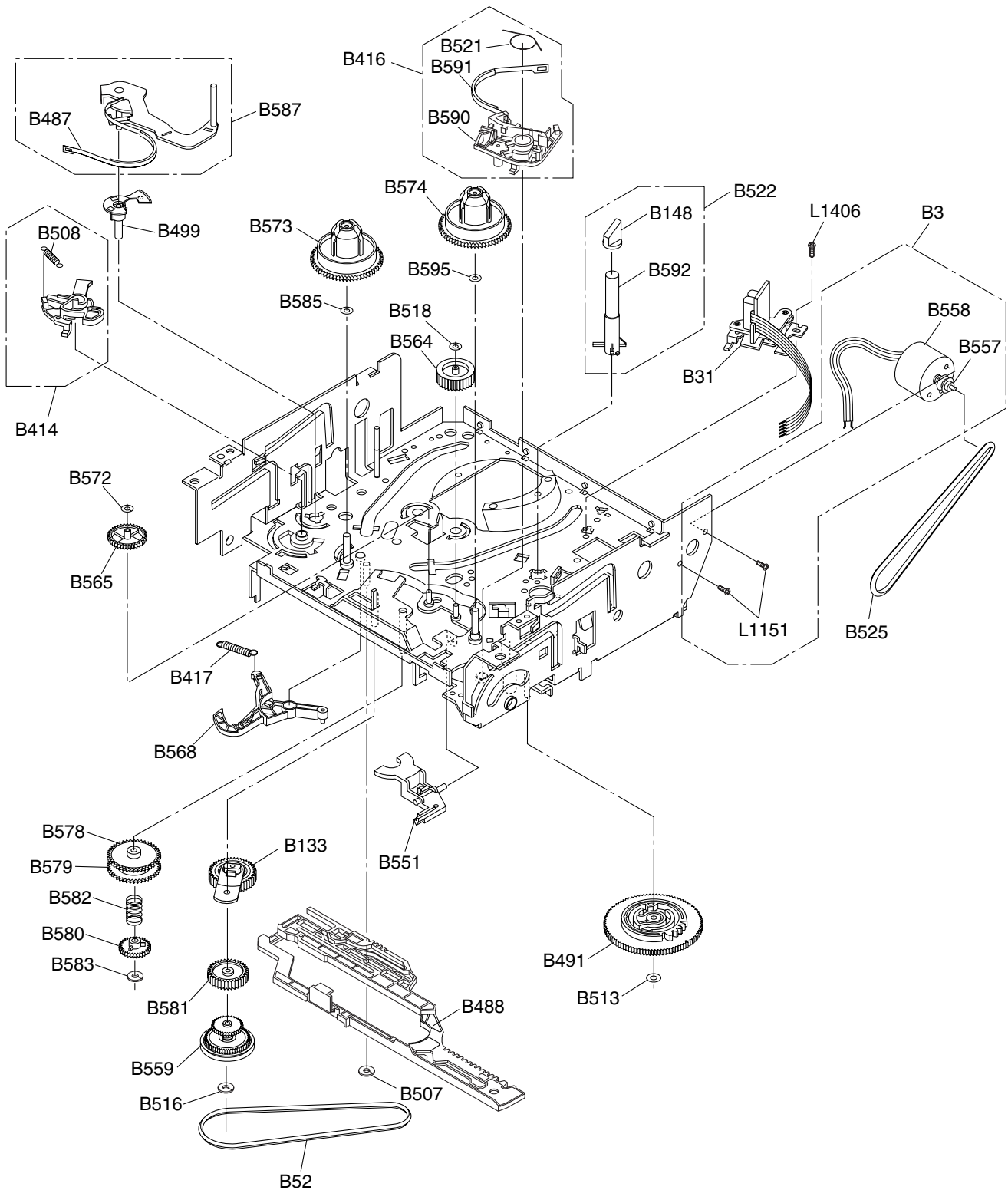
DECK EXPLODED VIEWS

Deck Mechanism View 1



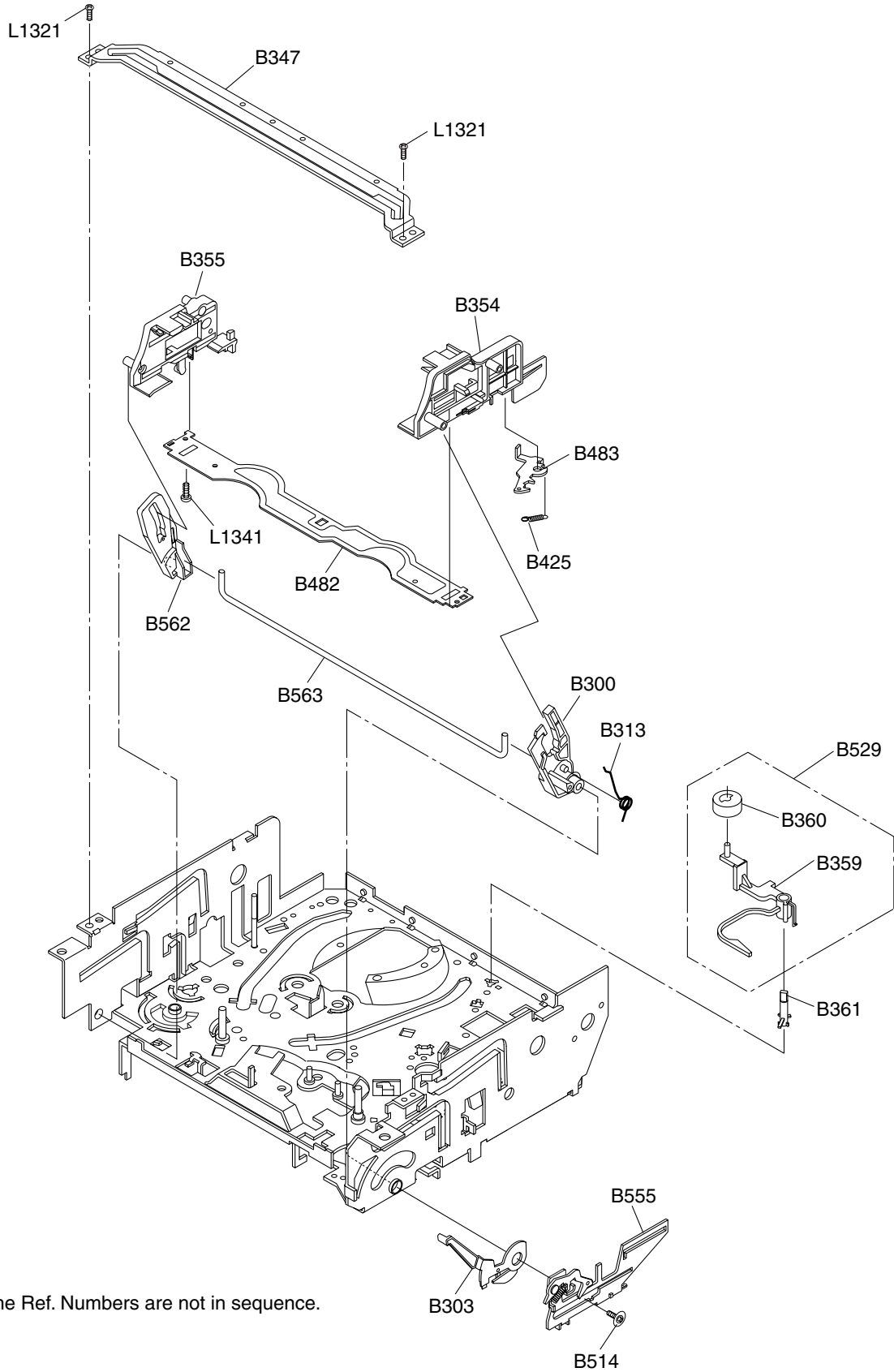
Some Ref. Numbers are not in sequence.

Deck Mechanism View 2



Some Ref. Numbers are not in sequence.

Deck Mechanism View 3



DECK PARTS LIST

Ref. No.	Description	Part No.	Code
B2	CYLINDER ASSEMBLY MK12.5 PAL 6HD	9HSN236ACYL	BE
B3	LOADING MOTOR ASSEMBLY MK12.5	9HS0VSA14636	AL
B5	SLIDE PLATE MK12.5	9HS0VM416429	AB
B8	PULLEY ASSEMBLY(HI) MK12	9HS0VSA13501	AH
B9	MOVING GUIDE S P.P MK12.5	9HS0VSA14717	AN
B10	MOVING GUIDE T P.P MK12.5	9HS0VSA14639	AN
B11	LOADING ARM(TU) ASSEMBLY MK12	9HS0VSA13300	AE
B12	LOADING ARM(SP) ASSEMBLY MK12	9HS0VSA13299	AE
B31	AC HEAD ASSEMBLY MK12.5	9HS0VSA14841	AP
B35	TAPE GUIDE ARM ASSEMBLY MK12.5	9HS0VSA15014	AE
B37	CAPSTAN MOTOR 288/VCZC1301	9HSN9681CML	AY
B52	CAP BELT MK10	9HS0VM411138	AC
B73	FE HEAD(MK12) VTR-1X2ERS11-155	9HSHVEC01TE005	AG
B74	PRISM MK10	9HS0VM202870	AB
B86	F BRAKE ASSEMBLY(HI) MK12	9HS0VSA13447	AC
B121	WORM MK12	9HS0VM414091	AK
B126	PULLEY MK12	9HS0VM414330B	AB
B133	IDLER ASSEMBLY(HI) MK12	9HS0VSA13451	AC
B148	TG CAP MK6	9HS0VM407664C	AA
B300	C DRIVE LEVER(TU) MK12	9HS0VM203773	AC
B303	F DOOR OPENER MK12	9HS0VM203751C	AB
B313	C DRIVE SPRING MK12	9HS0VM414145	AB
B347	GUIDE HOLDER A MK10	9HS0VM304920	AD
B354	SLIDER(TU) MK12	9HS0VM101172F	AC
B355	SLIDER(SP) MK12	9HS0VM101182H	AC
B359	CLEANER LEVER MK10	9HS0VM304413	AB
B360	CLEANER ROLLER MK9	9HS0VM410032C	AC
B361	CL POST MK10	9HS0VM411114	AA
B410	PINCH ARM(A) ASSEMBLY(6) MK12.5	9HS0VSA14935	AG
B411	PINCH SPRING MK12	9HS0VM414644	AB
B414	M BRAKE(SP) ASSEMBLY(HI) MK12	9HS0VSA13655	AH
B416	M BRAKE(TU) ASSEMBLY(HI) MK12	9HS0VSA13449	AH
B417	TENSION SPG(3002645) MK12	9HS0VM414221F	AB
B425	LOCK LEVER SPRING MK10	9HS0VM411110	AA
B482	CASSETTE PLATE MK12	9HS0VM203749	AC
B483	LOCK LEVER MK12	9HS0VM414095	AB
B487	BAND BRAKE(SP) MK12.5	9HS1VM320582	AC
B488	MODE LEVER(HI) MK12	9HS0VM101175J	AD
B491	CAM GEAR(A)(HI) MK12	9HS0VM101176G	AC
B492	MODE GEAR(LM) MK12	9HS0VM204236	AC
B494	C DOOR OPENER MK12	9HS0VM305719	AB
B499	T LEVER HOLDER MK12	9HS0VM305729C	AB
B501	WORM HOLDER MK12	9HS0VM203767	AD
B501	WORM HOLDER(R) MK12	9HS0VM204324	AD
B507	REEL WASHER MK9 5*2.1*0.5	9HS0VM410058	AA
B508	S BRAKE SPRING(HI) MK12	9HS0VM414899	AB
B513	P.S.W F 6*2.55*0.5	9HS0VM402629A	AA
B514	SCREW RACK MK10	9HS0VM411535	AB
B516	REEL WASHER MK9 5*2.1*0.5	9HS0VM410058	AA
B518	P.S.W CUT 1.6X4.0X0.5T	9HS0VM408485A	AA
B521	REV BRAKE SPG(HI) MK12	9HS0VM414943	AA
B522	TG POST ASSEMBLY MK10	9HS0VSA11012	AD
B525	LDG BELT MK11	9HS0VM412804	AC
B529	CLEANER ASSEMBLY MK10	9HS0VSA11161	AD
B551	FF ARM(HI) MK12	9HS0VM306183	AC
B553	REV SPRING MK11	9HS0VM412555	AA
B555	RACK ASSEMBLY MK12	9HS0VSA13289	AF
B557	MOTER PULLEY U5	9HS0VM403205	AB
B558	LOADING MOTOR M31E-1 R-14 7441	9HSMDZB12MM009	AH
B559	CLUTCH ASSEMBLY(HI) MK12	9HS0VSA13450	AQ
B562	C DRIVE LEVER(SP) MK12	9HS0VM203772	AB
B563	SLIDER SHAFT MK12	9HS0VM305762	AC
B564	M GEAR(HI) MK12	9HS0VM305755	AC
B565	SENSOR GEAR(HI) MK12	9HS0VM305756	AB
B567	PINCHI ARM(B) ASSEMBLY MK12.5	9HS1VSA10010	AF
B568	BT ARM MK12	9HS0VM305728	AC

Ref. No.	Description	Part No.	Code
B571	P.S.W CUT 1.6X4.0X0.5T	9HS0VM408485A	AA
B572	P.S.W CUT 1.6X4.0X0.5T	9HS0VM408485A	AA
B573	REEL S MK11	9HS0VM203436	AC
B574	REEL T MK10	9HS0VM202872C	AC
B578	TR GEAR A MK10	9HS0VM304440	AB
B579	TR GEAR B MK12	9HS0VM305900	AB
B580	TR GEAR C MK12	9HS0VM305743A	AB
B581	CENTER GEAR MK11	9HS0VM305081	AC
B582	TR GEAR SPRING MK10	9HS0VM411187C	AB
B583	CAM WASHER MK12	9HS0VM414741	AB
B585	PSW(2957505) MK11	9HS0VM412745	AB
B587	TENSION LEVER ASSEMBLY MK12	9HS0VSA13279	AG
B590	BRAKE ARM(TU) MK12	9HS0VM203752E	AB
B591	BAND BRAKE(TU) MK12	9HS0VM305724C	AC
B592	TG POST MK10	9HS0VM411108E	AB
B595	PSW(3957505) MK10	9HS0VM411741A	AB
L1051	SCREW B-TIGHT M2.6X6 PAN HEAD+	9HSGPMB9060	AA
L1053	SCREW S-TIGHT M2.6X8 WASHER HEAD+	9HSGCMS9080	AA
L1151	SCREW SEMS M2.6X4 PAN HEAD+	9HSCPM39040	AA
L1191	SCREW S-TIGHT M2.6X8 WASHER HEAD+	9HSGCMS9080	AA
L1321	SCREW S-TIGHT M3X6 BIND HEAD+	9HSGBMS3060	AA
L1322	SCREW B-TIGHT M2.3X4 BIND HEAD+	9HSGBMBY040	AA
L1341	SCREW P-TIGHT M2X6 PAN HEAD+	9HSGPMP2060	AA
L1406	AC HEAD SCREW MK9	9HS0VM410964	AB
L1450	SCREW SEMS M2.6X5 PAN HEAD+	9HSCPM39050	AB
L1466	SCREW S-TIGHT M2.6X6 BIND HEAD+	9HSGBMS9060	AA
L1467	SCREW M2.6X5 WASHER HEAD+	9HSSCM39050	AA
	SANKOUL FG-84M	9HS0VZZ00062	CB
	FLOIL G-684G	9HS0VZZ00257	CE
	SLIDUS OIL #150	9HS0VZZ00226	CE

SHARP

COPYRIGHT © 2005 BY SHARP CORPORATION

ALL RIGHTS RESERVED.

No part of this publication may be reproduced,
stored in a retrieval system, or transmitted in
any form or by any means, electronic, mechanical,
photocopying, recording, or otherwise, without
prior written permission of the publisher.